SOIL SURVEY

Pitt County North Carolina

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION
Issued November 1974

Major fieldwork for this soil survey was done in the period 1964–67. Soil names and descriptions were approved in 1968. Unless otherwise indicated, statements in the publication refer to conditions in the county during the time this soil survey was in progress. This survey was made cooperatively by the Soil Conservation Service and the North Carolina Agricultural Experiment Station. It is part of the technical assistance furnished to the Pitt County Soil and Water Conservation District.

Either enlarged or reduced copies of the soil map in this publication can be made by commercial photographers, or they can be purchased on individual order from the Cartographic Division, Soil Conservation Service, United States Department of Agriculture, Washington, D.C. 20250.

HOW TO USE THIS SOIL SURVEY

THIS SOIL SURVEY contains information that can be applied in managing farms and woodlands; in selecting sites for roads, ponds, buildings, and other structures; and in judging the suitability of tracts of land for farming, industry, and recreation.

Locating Soils

All the soils of Pitt County are shown on the detailed map at the back of this publication. This map consists of many sheets made from aerial photographs. Each sheet is numbered to correspond with a number on the Index to Map Sheets.

On each sheet of the detailed map, soil areas are outlined and are identified by symbols. All areas marked with the same symbol are the same kind of soil. The soil symbol is inside the area if there is enough room; otherwise, it is outside and a pointer shows where the symbol belongs.

Finding and Using Information

The "Guide to Mapping Units" can be used to find information. This guide lists all the soils of the county in alphabetic order by map symbol and gives the capability classification of each. It also shows the page where each soil is described and the woodland group in which the soil has been placed.

Individual colored maps showing the relative suitability or degree of limitation of soils for many specific purposes can be developed by using the soil map and the information in the text. Translucent material can be used as an overlay over the soil map and colored to show soils that have the same limitation or suitability. For example, soils that have a slight limitation for a given use can be colored green, those with a moderate limitation can be colored yellow, and those with a severe limitation can be colored red.

Farmers and those who work with farmers can learn about use and management of the soils from the soil descriptions, from the discussions of the capability units, and from the table that describes the woodland suitability groups.

Foresters and others can refer to the section "Woodland Uses of the Soils," where the soils of the county are grouped according to their suitability for trees.

Game managers, sportsmen, and others can find information about soils and wildlife in the section "Use of Soils for Wildlife."

Engineers and builders can find, under "Engineering Uses of the Soils," tables that contain test data, estimates of soil properties, and information about soil features that affect engineering practices.

Scientists and others can read about how the soils formed and how they are classified in the section "Formation and Classification of the Soils."

Newcomers in Pitt County may be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the information about the county given in the section "General Nature of the County" and also in the information given at the beginning of this publication.

U.S. GOVERNMENT PRINTING OFFICE: 1974

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

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SOILS SURVEYED BY EDWIN H. KARNOWSKI, J. B. NEWMAN, JAMES DUNN, AND J. A. MEADOWS, SOIL CONSERVATION SERVICE[1]

UNITED STATES DEPARTMENT OF AGCRIULTURE, SOIL CONSERVATION SERVICE, IN COOPERATION WITH THE NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION

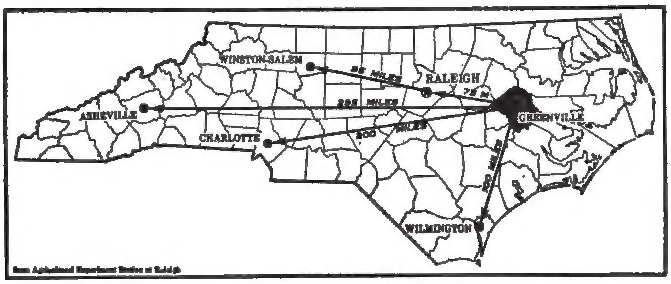

Figure 1.—Location of Pitt County in North Carolina

PITT COUNTY is on the Coastal Plain in the eastern part of North Carolina (fig. 1). It is bounded on the east by Beaufort County, on the northeast by Martin County, on the northwest by Edgecombe County, on the west by Wilson and Greene Counties, on the southwest by Lenoir County, and on the south by Craven County. The county has a total land area of 419,840 acres. In 1970 the population was 73,900. Greenville, in the approximate geographical center of the county, is the county seat.

The county is mostly rural, and farming is the main enterprise. A large part of the farm income is derived from the sale of tobacco. The rest is derived mainly from sales of corn, soybeans, peanuts, cotton, cucumbers, forestry products, dairy products, poultry and poultry products, and livestock.

In 1969 about 153,220 acres was in field crops (*11*),[2] 24,692 acres was in pasture, and 216,400 acres was in woodland (*10*). In the same year, about 45 percent of the total number of farms was operated by tenant farmers.

About 85 percent of the land in the county is in privately owned farms. The only significant publicly owned lands are the two areas owned by the U.S. Information Agency, Voice of America, and the farm operated by the Pitt County Home.

The soils are nearly level to sloping. The nearly level soils are in the eastern and southeastern parts of the county. The more sloping ones are in the western part and along the southern side of the Tar River and its tributaries. All of the soils are acid. Base saturation is less than 35 percent. Natural fertility is mostly low or very low. Suitable amounts of lime and fertilizer are generally needed to increase the content of calcium, magnesium, phosphorus, and potassium. The content of organic matter is also mostly low or very low, except in some very wet soils, where water has retarded oxidation.

[1] LEROY HACKER and JAY SHIROZAKI, Soil Conservation Service, also contributed substantially to this survey.

[2] Italic numbers in parentheses refer to Literature cited, p. 71.

How This Survey Was Made

Soil scientists made this survey to learn what kinds of soil are in Pitt County, where they are located, and how they can be used. The soil scientists went into the county knowing they likely would find many soils they had already seen and perhaps some they had not. They observed the steepness, length, and shape of slopes, the size and speed of streams, the kinds of native plants or crops, the kinds of rock, and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down into the parent material that has not been changed much by leaching or by the action of plant roots.

The soil scientists made comparisons among the profiles they studied, and they compared these profiles with those in counties nearby and in places more distant. They classified and named the soils according to nationwide, uniform procedures. The *soil series* and the *soil phase* are the categories of soil classification most used in a local survey.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer, all the soils of one series have major horizons that are similar in thickness, arrangement, and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. Craven and Lenoir, for example, are the names of two soil series. All the soils in the United States having the same series name are essentially alike in those characteristics that affect their behavior in the undisturbed landscape.

Soils of one series can differ in texture of the surface layer and in slope, stoniness, or some other characteristic that affects use of the soils by man. On the basis of such differences, a soil series is divided into phases. The name of a soil phase indicates a feature that affects management. For example, Craven fine sandy loam, 6 to 10 percent slopes, is one of several phases within the Craven series.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, trees, and other details that help in drawing boundaries accurately. The soil map at the back of this publication was prepared from aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning the management of farms and fields, a mapping unit is nearly equivalent to a soil phase. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some kind that have been seen within an area that is dominantly of a recognized soil phase.

Some mapping units are made up of soils of different series, or of different phases within one series. One such kind of mapping unit—a soil complex—is shown on the soil map of Pitt County.

A soil complex consists of areas of two or more soils, so intricately mixed or so small in size that they cannot be shown separately on the soil map. Each area of a complex contains some of each of the two or more dominant soils, and the pattern and relative proportions are about the same in all areas. Generally, but not in Pitt County, the name of a soil complex consists of the names of the dominant soils, joined by a hyphen. Bibb complex is an example of a soil complex in Pitt County.

In most areas surveyed, there are places where the soil material is so rocky, so shallow, so severely eroded, or so variable that it has not been classified by soil series. The places are shown on the soil map and are described in the survey, but they are called land types and are given descriptive names. Swamp is a land type in this county.

While a soil survey is in progress, soil scientists take soil samples needed for laboratory measurements and for engineering tests. Laboratory data from the same kind of soil in other places are also assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kind of soil. Yields under defined management are estimated for all the soils.

Soil scientists observe how soils behave when used as a growing place for native and cultivated plants, and as material for structures, foundations for structures, or covering for structures. They relate this behavior to properties of the soils. For example, they observe that filter fields for onsite disposal of sewage fail on a given kind of soil, and they relate this to the slow permeability of the soil or a high water table. They see that streets, road pavements, and foundations for houses are cracked on a named kind of soil, and they relate this failure to the high shrink-swell potential of the soil material. Thus, they use observation and knowledge of soil properties, together with available research data, to predict limitations or suitability of soils for present and potential uses.

After data have been collected and tested for the key, or benchmark, soils in a survey area, the soil scientists set up trial groups of soils. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others. They then adjust the groups according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under current methods of use and management.

General Soil Map

The general soil map at the back of this survey shows, in color, the soil associations in Pitt County. A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in a county, who want to compare different parts of a county, or who want to know the location of large tracts that are suitable for a certain kind of land use. Such a map is a useful general guide in managing a watershed, a wooded tract, or a wildlife area, or in planning engineering works, recreational facilities, and community developments. It is not a suitable map for planning the management of a farm or field, or for selecting the exact location of a road, building, or similar structure, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect their management.

The seven soil associations in Pitt County are discussed in the following pages.

1. Norfolk-Exum-Goldsboro Association

Moderately well drained and well drained soils that have a subsoil of dominantly friable sandy clay loam or clay loam; on uplands

This soil association occupies large areas on broad divides and on smooth side slopes. It makes up about 21 percent of the county. About 20 percent of the association is Norfolk soils, another 20 percent is Exum soils, and 10 percent is Goldsboro soils. The rest consists of minor soils, chiefly Aycock, Wagram, Lynchburg, Rains, and Coxville.

Norfolk soils are on the higher divides within this association. They are nearly level or gently sloping and are well drained. Their surface layer is sandy loam that is dark grayish brown or grayish brown in uneroded areas and is light yellowish brown in eroded areas. Their subsoil is dominantly brownish-yellow, friable sandy clay loam.

Exum soils are nearly level or gently sloping and are moderately well drained. Their surface layer is dark grayish-brown or grayish-brown fine sandy loam, and their subsoil is dominantly mottled brownish-yellow, friable clay loam. Grayish mottles are within 30 inches of the surface.

Goldsboro soils, also nearly level or gently sloping, are moderately well drained. Their surface layer is dark-gray or grayish-brown sandy loam. Their subsoil is mottled, friable sandy clay loam that is dominantly brownish yellow in the upper part and is gray in the lower part. Gray mottles are within 30 inches of the surface.

Most of this association is cultivated or in pasture. The rest is chiefly in forest. The major soils are suited or well suited to all the locally grown crops. They are especially well suited to tobacco, peanuts, cotton, and cucumbers.

The chief limitations to use of the major soils, both for farm and for nonfarm purposes, are a seasonal high water table and slope.

2. Roanoke-Lakeland-Altavista Association

Poorly drained to excessively drained soils that have a subsoil of dominantly friable sandy clay loam or very firm clay, or that are underlain by loose sand; on stream terraces and uplands

This association consists of large areas of soils on broad flats, in slight depressions, and on rounded divides. It occupies about 16 percent of the county. About 12 percent of this association is Roanoke soils, 10 percent is Lakeland soils, and 5 percent is Altavista soils. The rest consists of minor soils, chiefly Alaga, Cape Fear, Chipley, Masada, Ocilla, Olustee, Osier, Pactolus, Tuckerman, Wagram, and Wickham.

Roanoke soils are nearly level and are poorly drained. They have a surface layer of dark-gray or dark grayish-brown silt loam and a subsoil that is dominantly mottled, gray, very firm clay.

Lakeland soils, on the higher divides, are nearly level or gently sloping and are excessively drained. They have a surface layer of dark-brown or dark grayish-brown sand and underlying material that is dominantly brownish-yellow sand.

Altavista soils are nearly level or gently sloping and are moderately well drained. They have a surface layer of dark grayish-brown or dark-gray sandy loam. Their subsoil is dominantly mottled, yellow and brownish-yellow, friable sandy clay loam that grades to light-gray sandy loam in the lower part. Gray mottles are within 30 inches of the surface.

About half of this association is cultivated or in pasture, and the rest is chiefly in forest. If properly drained, the Roanoke soils are suited to a few locally grown crops, mainly corn, soybeans, and pasture. The Lakeland soils are fairly well suited and the Altavista soils are well suited to most locally grown crops.

The chief limitations to use of the major soils, both for farm and for nonfarm purposes, are a seasonal high water table, flooding, and very low available water capacity. The soils are also subject to soil blowing, and they lose plant nutrients readily as a result of leaching.

3. Lynchburg-Rains-Goldsboro Association

Moderately well drained to poorly drained soils that have a subsoil of dominantly friable sandy clay loam; on uplands

This soil association is on broad, smooth flats and divides and in slight depressions. It occupies about 24 percent of the county. About 22 percent of this association is Lynchburg soils, 20 percent is Rains soils, and 5 percent is Goldsboro soils. The rest consists of minor soils, mainly Norfolk, Aycock, Nahunta, Byars, Exum, Coxville, and Ocilla.

Lynchburg soils are nearly level and are somewhat poorly drained. They have a surface layer of dark-gray or gray fine sandy loam. Their subsoil is dominantly mottled, friable sandy clay loam that is brownish yellow in the upper part and is gray in the lower part. Gray mottles are within 18 inches of the surface.

Rains soils are nearly level and are poorly drained. They have a surface layer of dark-gray or dark grayish-brown fine sandy loam. Their subsoil is dominantly mottled, gray, friable sandy clay loam.

Goldsboro soils are nearly level or gently sloping and are moderately well drained. They have a surface layer of dark-gray or grayish-brown sandy loam. Their subsoil is dominantly mottled, friable sandy clay loam that is brownish yellow in the upper part and is gray in the lower part. Gray mottles are within 30 inches of the surface.

Most of this association is cultivated or in pasture. The rest is chiefly in forest. If properly drained, the Lynchburg and Goldsboro soils are well suited to all the locally grown crops, and the Rains soils are suited to most of these crops.

The chief limitations to use of the major soils for farm and for nonfarm purposes are a seasonal high water table and ponding.

4. Lenoir-Bladen-Craven Association

Moderately well drained to poorly drained soils that have a subsoil of very firm and firm sandy clay to clay; on uplands

This soil association is on broad flats, on smooth divides, and in slight depressions. It occupies about 19 percent of the county. About 20 percent of this association is Lenoir soils, another 20 percent is Bladen soils, and 15 percent is Craven soils. The rest consists of minor soils, chiefly Exum, Leaf, Lynchburg, Rains, and Coxville.

Lenoir soils are nearly level and are somewhat poorly drained. They have a surface layer of dark-gray or dark grayish-brown loam. Their subsoil is mottled, yellowish-brown, very firm clay in the upper part; mottled, gray, very firm clay and silty clay in the middle part; and mottled, gray, firm sandy clay in the lower part.

Bladen soils are nearly level and are poorly drained. They have a surface layer of dark-gray or gray fine sandy loam. Their subsoil is dominantly mottled, light brownish-gray, firm sandy clay in the upper part and is mottled, gray, very firm clay below.

Craven soils, on the more sloping divides within the association, are nearly level to sloping and are moderately well drained. They have a surface layer of fine sandy loam that is dark gray to grayish brown in uneroded areas and is brown or very pale brown in eroded areas. Their subsoil is dominantly mottled, very firm clay that is brownish yellow and yellowish brown in the upper part and is gray in the lower part. Gray mottles are within 30 inches of the surface.

Most of this association is cultivated or in pasture. The rest is chiefly in forest. If properly drained, the Lenoir and Craven soils are fairly well suited or well suited to most locally grown crops. The Bladen soils, if properly drained, are suited to a few locally grown crops, chiefly corn, soybeans, small grain, and pasture.

The chief limitations to use of the major soils, both for farm and for nonfarm purposes, are a seasonal high water table, slow permeability, ponding, and slope.

5. Coxville-Exum Association

Poorly drained and moderately well drained soils that have a subsoil of dominantly firm sandy clay or friable clay loam; on uplands

This soil association is on broad flats and divides, on smooth side slopes, and in slight depressions. It occupies about 16 percent of the county. About 35 percent of this association is Coxville soils, and about 25 percent is Exum soils. The rest consists of minor soils, chiefly Craven, Leaf, Nahunta, Lenoir, Bladen, and Rains.

Coxville soils are nearly level and are poorly drained. They have a surface layer of gray or dark-gray fine sandy loam and a subsoil that is dominantly mottled, gray, firm sandy clay.

Exum soils are nearly level or gently sloping and are moderately well drained. They have a surface layer of dark grayish-brown or grayish-brown fine sandy loam. Their subsoil is dominantly mottled, brownish-yellow, friable clay loam. Grayish mottles are within 30 inches of the surface.

About half of this association is in forest, and the rest is chiefly cultivated or in pasture. Where the Coxville soils are drained, they are suited to most of the locally grown crops and are used mainly for corn, small grain, soybeans, and pasture. The Exum soils are well suited to all the locally grown crops and are used chiefly for tobacco, peanuts, cotton, corn, soybeans, pasture, and small grain.

The chief limitations to use of the major soils for farm and for nonfarm purposes are a seasonal high water table, ponding, moderately slow permeability, and slope.

6. Bibb-Portsmouth Association

Poorly drained and very poorly drained soils that are underlain by very friable fine sandy loam, or that have a subsoil of friable sandy loam and sandy clay loam; on flood plains and stream terraces

This soil association is on broad, smooth flats and in draws and depressions. It occupies about 2 percent of the county. About 65 percent of this association is Bibb soils, and about 25 percent is Portsmouth soils. The rest consists of minor soils, chiefly Tuckerman, Olustee, Cape Fear, and Swamp.

Bibb soils are nearly level and are poorly drained. They have a surface layer of dark grayish-brown or dark-gray fine sandy loam. The underlying material is dominantly dark gray and very dark gray fine sandy loam and sandy loam.

Portsmouth soils are also nearly level and are very poorly drained. They have a surface layer of very dark grayish-brown, very dark gray, or black loam. Their subsoil is dominantly mottled, dark-gray, friable sandy loam in the upper part and is grayish-brown, friable sandy clay loam in the lower part.

Most of this association is in forest consisting mostly of hardwoods or cypress. The rest is chiefly cultivated or in pasture. If properly drained, the major soils are fairly well suited or well suited to a few locally grown crops. They are used mainly for corn, soybeans, and Ladino clover-fescue pasture.

The chief limitations to use of the major soils for farm and for nonfarm purposes are a seasonal high water table and flooding.

7. Bladen-Byars Association

Poorly drained and very poorly drained soils that have a subsoil of firm and very firm sandy clay to clay; on uplands

This soil association is on smooth flats and in slight depressions. It occupies about 2 percent of the county. About 60 percent of this association is Bladen soils, and about 30 percent is Byars soils. The rest consists of minor soils, chiefly Exum, Pantego, and Leaf.

Bladen soils are nearly level and are poorly drained. They have a surface layer of dark-gray or gray fine sandy loam. Their subsoil is dominantly mottled, light brownish-gray, firm sandy clay in the upper part and is mottled, gray, very firm clay in the lower part.

Byars soils are nearly level and are very poorly drained. They have a surface layer of black or very dark gray loam. Their subsoil is dominantly dark-gray, very firm silty clay in the upper part and is mottled, gray, very firm clay in the lower part.

Most of this association is in forest. The rest is chiefly cultivated or in pasture. If properly drained, the major soils are suited to a few locally grown crops. They are used chiefly for corn, soybeans, small grain, and Ladino clover-fescue pasture.

The chief limitations to use of the major soils for farm and for nonfarm purposes are a seasonal high water table, ponding, and slow permeability.

Descriptions of the Soils

This section describes the soil series and mapping units in Pitt County. Each soil series is described in detail, and then, briefly, each mapping unit in that series. Unless it is specifically mentioned otherwise, it is to be assumed that what is stated about the soil series holds true for the mapping units in that series. Thus, to get full information about any one mapping unit, it is necessary to read both the description of the mapping unit and the description of the soil series to which it belongs.

An important part of the description of each soil series is the soil profile, that is, the sequence of layers from the surface downward to rock or other underlying material. Each series contains two descriptions of this profile. The first is brief and in terms familiar to the layman. The second is much more detailed and is for those who need to make thorough and precise studies of soils. The profile described in the series is representative for mapping units in that series. If the profile of a given mapping unit is different from the one described for the series, these differences are stated in describing the mapping unit, or they are differences that are apparent in the name of the

mapping unit. Color terms are for moist soil unless otherwise stated.

As mentioned in the section "How This Survey Was Made," not all mapping units are members of a soil series. Swamp, for example, does not belong to a soil series, but nevertheless, it is listed in alphabetic order along with the soil series.

Following the name of each mapping unit is a symbol in parentheses. This symbol identifies the mapping unit on the detailed soil map. Listed at the end of each description of a mapping unit is the capability unit and woodland group in which the mapping unit has been placed. The page for the description of each capability unit and the woodland suitability group for each mapping unit can be learned by referring to the "Guide to Mapping Units" at the back of this survey.

The acreage and proportionate extent of each mapping unit are shown in table 1. Many of the terms used in describing soils can be found in the Glossary, and more detailed information about the terminology and methods of soil mapping can be obtained from the Soil Survey Manual (*8*).

Alaga Series

The Alaga series consists of somewhat excessively drained, nearly level and gently sloping soils on uplands and stream terraces. These soils formed in Coastal Plain and alluvial sediment. A seasonal high water table is below a depth of 5 feet.

In a typical profile, the surface layer is dark grayish-brown loamy sand about 7 inches thick. To a depth of about 72 inches, the underlying material is very friable and loose loamy sand that is yellowish brown and light yellowish brown in the upper part and is brownish yellow mottled with light gray in the lower part. Below this material and extending to a depth of about 85 inches is light-gray sand containing thin (less than one-half inch thick) bands of sandy loam.

Natural fertility and the content of organic matter are very low, and available water capacity is low. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is medium acid to very strongly acid.

Alaga soils in Pitt County are of only minor importance for farming, but most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Very low natural fertility, low available water capacity, and droughtiness are major limitations to use of these soils. In addition, these soils are subject to soil blowing, and they lose plant nutrients readily as a result of leaching. Crops grown on them respond fairly well to recommended applications of fertilizer and lime.

Representative profile of Alaga loamy sand, banded substratum, 0 to 6 percent slopes, 3½ miles west of Grimesland, 1 mile south of U.S. Highway No. 264, one-fourth mile east of State Road No. 1764, and 50 yards north in a field:

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) loamy sand; weak, medium, granular structure; very friable; many small roots; medium acid; abrupt, smooth boundary.

C1—7 to 13 inches, yellowish-brown (10YR 5/4) loamy sand; single grain; very friable; many small and few medium roots; medium acid; clear, smooth boundary.

C2—13 to 33 inches, light yellowish-brown (2.5Y 6/4) loamy sand; single grain; very friable; few medium roots; strongly acid; gradual, wavy boundary.

C3—33 to 64 inches, brownish-yellow (10YR 6/6) loamy sand; single grain; loose; very strongly acid; gradual, wavy boundary.

TABLE 1.—*Approximate acreage and proportionate extent of the soils*

	Acres	Percent		Acres	Percent
Alaga loamy sand, banded substratum, 0 to 6 percent slopes	12,444	3.0	Lenoir loam, 0 to 1 percent slopes	18,463	4.4
Altavista sandy loam, 0 to 4 percent slopes	4,902	1.2	Lynchburg fine sandy loam	29,901	7.1
Aycock fine sandy loam, 0 to 1 percent slopes	1,772	.4	Masada sandy loam, 0 to 4 percent slopes	1,220	.2
Aycock fine sandy loam, 1 to 6 percent slopes	2,473	.6	Nahunta silt loam	2,501	.6
Aycock fine sandy loam, 1 to 6 percent slopes, eroded	1,141	.3	Norfolk sandy loam, 0 to 1 percent slopes	5,392	1.2
Bibb complex	23,375	5.5	Norfolk sandy loam, 1 to 6 percent slopes	12,437	2.9
Bladen fine sandy loam	22,652	5.4	Norfolk sandy loam, 1 to 6 percent slopes, eroded	1,756	.4
Byars loam	9,167	2.3	Ocilla loamy fine sand, 0 to 4 percent slopes	23,540	5.6
Cape Fear loam	1,247	.3	Olustee loamy sand, sandy subsoil variant	1,265	.3
Chipley sand	1,493	.4	Osier loamy sand, loamy substratum	3,986	.9
Coxville fine sandy loam	28,324	6.8	Pactolus loamy sand	6,651	1.5
Craven fine sandy loam, 0 to 1 percent slopes	4,581	1.1	Pantego loam	9,026	2.1
Craven fine sandy loam, 1 to 6 percent slopes	3,009	.7	Portsmouth loam	11,355	2.7
Craven fine sandy loam, 1 to 6 percent slopes, eroded	4,422	1.0	Rains fine sandy loam	35,978	8.5
Craven fine sandy loam, 6 to 10 percent slopes	1,349	.3	Roanoke silt loam	10,425	2.5
Exum fine sandy loam, 0 to 1 percent slopes	32,248	7.7	Swamp	5,981	1.4
Exum fine sandy loam, 1 to 6 percent slopes	4,661	1.1	Tuckerman fine sandy loam	8,832	2.1
Goldsboro sandy loam, 0 to 1 percent slopes	11,441	2.8	Wagram loamy sand, 0 to 6 percent slopes	29,085	7.0
Goldsboro sandy loam, 1 to 6 percent slopes	3,100	.8	Wagram loamy sand, 6 to 10 percent slopes	1,106	.3
Lakeland sand, 0 to 6 percent slopes	8,239	2.0	Wickham sandy loam, 0 to 6 percent slopes	865	.2
Leaf silt loam	16,478	4.0	Total	419,840	100.0
Lenoir fine sandy loam, thin solum variant, 0 to 3 percent slopes	1,557	.4			

C4—64 to 72 inches, brownish-yellow (10YR 6/6) loamy sand; many, medium, distinct, light-gray (10YR 7/1) mottles as the result of uncoated sand grains; single grain; loose; very strongly acid; gradual, wavy boundary.

C5—72 to 85 inches, light-gray (10YR 7/1) sand; thin (less than one-half inch thick) bands of yellowish-brown (10YR 5/6) sandy loam; single grain; loose; medium acid.

The combined thickness of the sandy horizons is greater than 80 inches. The Ap or A1 horizon ranges from dark gray to grayish brown and is 5 to 10 inches thick. The upper part of the C horizon is yellowish-brown, light yellowish-brown, or brownish-yellow loamy sand or loamy fine sand. The lower part of the C horizon is commonly light-gray sand that contains thin (less than one-half inch thick) bands of sandy loam.

Alaga loamy sand, banded substratum, 0 to 6 percent slopes (AgB).—This is a somewhat excessively drained, sandy soil on broad, high divides on uplands and stream terraces. It occurs in areas of irregular shape that are 5 to 40 acres in size. The surface layer is dark grayish-brown loamy sand about 7 inches thick. To a depth of about 72 inches, the underlying material is very friable and loose loamy sand that is yellowish brown and light yellowish brown in the upper part and is brownish yellow mottled with light gray in the lower part. Sand that contains thin (less than one-half inch thick) bands of sandy loam is generally at a depth of 6 feet or more.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have slopes of 6 to 10 percent. Also included were a few areas in which the surface layer is loamy fine sand. Other inclusions consist of small areas of Lakeland, Chipley, Pactolus, and Wagram soils.

Infiltration is rapid. Runoff is slow.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is fairly well suited to most of the locally grown crops. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Very low natural fertility and droughtiness are severe limitations to use of this soil because of the thick layers of sandy material. In addition, soil blowing is a severe hazard in cultivated areas. If cultivated crops are grown, practices that effectively control soil blowing and that maintain soil productivity are needed. Capability unit IIIs–1; woodland suitability group 3s2.

Altavista Series

The Altavista series consists of moderately well drained, nearly level and gently sloping soils on stream terraces. These soils formed in alluvial sediment. A seasonal high water table is at a depth of about 2½ feet.

In a typical profile, the surface layer is dark grayish-brown and light yellowish-brown sandy loam about 14 inches thick. The subsoil is about 23 inches thick. In the upper part the subsoil is dominantly yellow and brownish-yellow, friable sandy clay loam mottled with light gray and reddish yellow. In the lower part it is light-gray, friable sandy loam mottled with brownish yellow. Below the subsoil and extending to a depth of about 66 inches are layers of loamy coarse sand and loamy fine sand that are light gray mottled with brownish yellow and yellow mottled with light gray. The underlying material is mottled, very pale brown, yellow, and reddish-yellow coarse sand that extends to a depth of about 92 inches.

Natural fertility and the content of organic matter are low, and available water capacity is medium. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

Altavista soils in Pitt County are of only minor importance for farming. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest and in housing developments or other nonfarm uses. The seasonal high water table and infrequent flooding for brief periods are the major limitations to use of these soils. Where crops are grown, response is good to recommended applications of fertilizer and lime.

Representative profile of Altavista sandy loam, 0 to 4 percent slopes, 1 mile southeast of Penny Hill, 75 feet east of State Road No. 1408 and 200 feet south of a farmhouse:

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) sandy loam; weak, fine, granular structure; very friable; many small roots; medium acid; clear, smooth boundary.

A2—7 to 14 inches, light yellowish-brown (10YR 6/4) sandy loam; weak, medium, granular structure; very friable; many small and few medium roots; few medium root channels and few, small, old cracks filled with dark grayish-brown sandy loam from the Ap horizon; strongly acid; clear, wavy boundary.

B21t—14 to 16 inches, very pale brown (10YR 7/4) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few small and medium roots; few medium root channels; few, thin, patchy clay films on faces of peds; strongly acid; clear, wavy boundary.

B22t—16 to 25 inches, yellow (10YR 7/6) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B23t—25 to 32 inches, brownish-yellow (10YR 6/6) sandy clay loam; few, fine, distinct, light-gray mottles and few, medium, distinct, reddish-yellow (7.5YR 6/8) mottles; weak, medium, subangular blocky structure; friable, sticky and slightly plastic; few medium root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3g—32 to 37 inches, light-gray (10YR 7/1) sandy loam; common, fine, distinct, brownish-yellow mottles; weak, medium, subangular blocky structure; friable; few fine mica flakes; few fine pebbles; very strongly acid; gradual, wavy boundary.

IIC1g—37 to 44 inches, light-gray (10YR 7/1) loamy coarse sand; common, fine, distinct, brownish-yellow mottles; single grain; very friable; few fine mica flakes; few fine pebbles; very strongly acid; gradual, wavy boundary.

IIC2—44 to 54 inches, yellow (10YR 7/6) loamy coarse sand; common, medium, distinct, light-gray (10YR 7/1) mottles; single grain; very friable; few fine mica flakes; few fine pebbles; very strongly acid; gradual, wavy boundary.

IIC3—54 to 66 inches, yellow (10YR 7/6) loamy fine sand; common, medium, distinct, light-gray (10YR 7/1) mottles; single grain; very friable; few fine mica flakes; few fine pebbles; very strongly acid; gradual, wavy boundary.

IIC4—66 to 92 inches, mottled very pale brown (10YR 7/3), yellow (10YR 7/6), and reddish-yellow (7.5YR 6/8) coarse sand; single grain; loose; few fine mica flakes; few fine pebbles; most sand grains are uncoated; strongly acid.

Thickness of the solum is 40 inches or less. The A horizon is 8 to 20 inches thick. The Ap or A1 horizon is dark grayish brown or dark gray, and the A2 horizon is light yellowish brown to pale brown. The B2 horizon ranges from very pale brown or yellow to brownish-yellow sandy loam to sandy clay loam, and it has reddish-yellow, light-gray, or gray mottles in the lower part. The B3 horizon is light-gray or gray sandy loam mottled with brownish yellow. The C horizon is commonly loamy fine sand to coarse sand. It contains few to many pebbles.

Altavista sandy loam, 0 to 4 percent slopes (AlB).—This is a moderately well drained soil that occupies broad divides on stream terraces. It occurs in areas of irregular shape that are 4 to 20 acres in size. The surface layer is dark grayish-brown and light yellowish-brown sandy loam about 14 inches thick. The subsoil is about 23 inches thick. In the upper part, the subsoil is dominantly yellow and brownish-yellow, friable sandy clay loam mottled with light gray and reddish yellow. In the lower part, it is light-gray, friable sandy loam mottled with brownish yellow.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sandy loam, loamy fine sand, or loamy sand. Also included were small areas of Masada, Wickham, Ocilla, and Tuckerman soils.

Infiltration is moderate. Runoff is slow.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is well suited to most of the locally grown crops. Infrequent flooding occurs for brief periods, however, and wetness is a moderate limitation. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest and in housing developments or other nonfarm uses. Artificial drainage is needed in some cultivated areas for optimum growth of tobacco and other crops that require good drainage. Capability unit IIw-2; woodland suitability group 2w8.

Aycock Series

The Aycock series consists of well-drained, nearly level or gently sloping soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is below a depth of 5 feet.

In a typical profile, the surface layer is dark grayish-brown and light yellowish-brown fine sandy loam about 10 inches thick. The subsoil extends to a depth of 85 inches or more. To a depth of 72 inches, the subsoil is dominantly brownish-yellow, friable clay loam mottled with light yellowish brown, yellowish brown, and red. Below this is brownish-yellow, friable sandy clay mottled with red, gray, and yellowish brown.

Natural fertility and the content of organic matter are low, and available water capacity is high. Permeability is moderate, and shrink-swell potential is low to moderate. In areas that have not received lime, reaction is strongly acid or very strongly acid.

Aycock soils in Pitt County are of only minor importance for farming. Nevertheless, most of the acreage is used for cultivated crops or pasture. The rest is mainly in forest or is in housing developments or other nonfarm uses. Slope is the major limitation to use of these soils for crops or other purposes. Where these soils are used for crops, response is good to recommended applications of fertilizer and lime.

Representative profile of Aycock fine sandy loam, 0 to 1 percent slopes, 3 miles northeast of Farmville, one-third mile north of State Road No. 1200, 195 feet east of State Road No. 1221, and 30 feet south of field path:

Ap—0 to 8 inches, dark grayish-brown (10YR 4/2) fine sandy loam; weak, fine, granular structure; very friable; many small roots; medium acid; abrupt, smooth boundary.

A2—8 to 10 inches, light yellowish-brown (10YR 6/4) fine sandy loam; weak, medium, granular structure; very friable; many small roots; many medium root channels filled with dark grayish-brown material from the Ap horizon; medium acid; abrupt, smooth boundary.

B1t 10 to 13 inches, brownish-yellow (10YR 6/6) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few small and medium roots; few medium root channels filled with dark grayish-brown material from the Ap horizon; strongly acid; clear, wavy boundary.

B21t—13 to 33 inches, brownish-yellow (10YR 6/6) clay loam; few, medium, distinct, light yellowish-brown (10YR 6/4) mottles; weak and moderate, medium, subangular blocky structure; friable, sticky and plastic; few medium roots and root channels; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22t—33 to 50 inches, brownish-yellow (10YR 6/6) clay loam; many, medium, distinct, light yellowish-brown (10YR 6/4) mottles; few, medium, faint, yellowish-brown (10YR 5/8) mottles; and few, fine and medium, distinct, light brownish-gray (10YR 6/2) mottles; weak and moderate, medium, subangular blocky structure; friable, sticky and plastic; few medium roots and root channels; thin, patchy clay films and silt coats on faces of peds; very strongly acid; gradual, wavy boundary.

B23t—50 to 72 inches, brownish-yellow (10YR 6/6) clay loam; many, medium, prominent, red (2.5YR 4/8) mottles; few, coarse, distinct, gray (10YR 5/1) mottles; and few, medium, faint, yellowish-brown (10YR 5/8) mottles; weak and moderate, medium, subangular blocky structure; friable, sticky and plastic; thin, patchy clay films and silt coats on faces of peds; very strongly acid; gradual, wavy boundary.

B3t—72 to 85 inches, brownish-yellow (10YR 6/6) sandy clay; many, medium, prominent, red (2.5YR 4/8) mottles; few, coarse, faint, gray (10YR 5/1) mottles; and few, medium, distinct, yellowish-brown (10YR 5/8) mottles; weak, medium, subangular blocky and platy structure; friable, sticky and plastic; few, thin, patchy clay films on faces of peds; very strongly acid.

The solum is more than 60 inches thick. The Ap or A1 horizon ranges from 3 to 20 inches in thickness. It is dark grayish brown or grayish brown in uneroded areas but ranges to yellowish brown in eroded areas. The A2 horizon is light yellowish brown to pale yellow. The B horizon is brownish yellow to yellowish brown, and it ranges from 40 to more than 65 inches in thickness. Red, light yellowish-brown, and yellowish-brown mottles are in the B horizon. Gray mottles are more than 30 inches below the surface. The B1 and B2 horizons range from sandy clay loam to silty clay loam. The C horizon is yellowish to grayish loamy sand to clay.

In Pitt County these soils have a lower content of silt and of very fine sand than is recognized for the Aycock series. About 31 percent of the soil material is coarse, medium, and fine sand. This difference does not alter the usefulness and behavior of the soils.

Aycock fine sandy loam, 0 to 1 percent slopes (AyA).—This is a well-drained soil on broad divides in the uplands. It occurs in areas of irregular shape that are 5 to 20 acres in size. The profile is the one described as representative of the Aycock series. The surface layer

is dark grayish-brown and light yellowish-brown fine sandy loam about 10 inches thick. The subsoil extends to a depth of 85 inches or more. To a depth of 72 inches, the subsoil is dominantly brownish-yellow, friable clay loam mottled with light yellowish brown, yellowish brown, and red. Below this is brownish-yellow, friable sandy clay mottled with red, gray, and yellowish brown.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of silt loam, very fine sandy loam, or sandy loam. Also included were small areas of Norfolk, Goldsboro, and Exum soils.

Infiltration is moderate. Runoff is slow.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It has no major limitations to use and is well suited to all the locally grown crops. Most of the acreage is in cultivated crops or pasture. The rest is chiefly in forest or in housing developments or other nonfarm uses. Tobacco, peanuts, and cotton are the principal crops. Capability unit I–1; woodland suitability group 2o1.

Aycock fine sandy loam, 1 to 6 percent slopes (AyB).—This is a well-drained soil on smooth side slopes in the uplands. It is in long, narrow areas that range from 3 to 20 acres in size. The surface layer is dark grayish-brown or grayish-brown fine sandy loam 8 to 20 inches thick. The subsoil is brownish-yellow to yellowish-brown, friable clay loam 40 to more than 65 inches thick.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of sandy loam. Also included were small areas of Norfolk, Goldsboro, and Exum soils.

Infiltration is moderate. Runoff is medium.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is used mainly for cultivated crops and pasture, but part of the acreage is used for other purposes, chiefly for forest and housing developments or other nonfarm uses. This soil is well suited to all the locally grown crops. Erosion is a moderate hazard, however, where cultivated crops are grown. Practices that effectively control runoff and that reduce erosion are needed if cultivated crops are grown. Tobacco, peanuts, and cotton are the principal crops. Capability unit IIe–1; woodland suitability group 2o1.

Aycock fine sandy loam, 1 to 6 percent slopes, eroded (AyB2).—This is a well-drained soil on smooth side slopes in the uplands. It is in long, narrow areas that range from 3 to 8 acres in size. The surface layer is 3 to 8 inches thick. In many places it is a mixture of soil material from the remaining original surface layer and from the subsoil. In the less eroded spots, the present surface layer is dominantly yellowish-brown fine sandy loam. In the more eroded spots, it is brownish-yellow clay loam. The subsoil is 40 to more than 65 inches thick. It is brownish-yellow to yellowish-brown, friable clay loam to silty clay loam.

Included with this soil in mapping were a few areas of a soil that has a similar profile but that has a surface layer of sandy loam. Also included were a few small areas in which slopes are greater than 6 percent. Other inclusions consist of small areas of Norfolk and Exum soils.

Infiltration is moderately slow. Runoff is medium.

The surface layer has been thinned by erosion. Therefore, this soil is rather difficult to keep in good tilth, but it can be satisfactorily worked throughout a fairly wide range of moisture content. After hard rains, however, a crust forms in the more eroded spots and clods tend to form if this soil is worked when too wet. The crusting and clodding adversely affect germination. As a result, stands of crops are likely to be poor, replanting of some crops may be necessary, and an even stand of tobacco is hard to obtain. Where the stand is uneven, the tobacco ripens at different times, harvesting and curing are difficult, and the quality of the crop is reduced.

This soil is suited to all the locally grown crops. Most of the acreage is used for cultivated crops or pasture, and the rest is chiefly in forest. Erosion is a moderate hazard. In cultivated areas practices that effectively control runoff and that reduce erosion are needed. Areas that are farmed are used mainly for tobacco, cotton, corn, soybeans, and pasture. Capability unit IIe–1; woodland suitability group 2o1.

Bibb Series

The Bibb series consists of poorly drained, nearly level soils on flood plains and in draws and depressions in the uplands. These soils formed in recent alluvium and in local alluvium. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is dark grayish-brown fine sandy loam about 4 inches thick. To a depth of about 21 inches, the underlying material is dark-gray and very dark gray, very friable fine sandy loam mottled with gray. The next layer is dark-gray, very friable sandy loam mottled with gray and light gray. It is underlain at a depth of about 36 inches by light-gray sand that is mottled with dark gray and extends to a depth of about 72 inches.

Natural fertility and the content of organic matter are low. Available water capacity is medium. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is medium acid to very strongly acid.

The Bibb soils in Pitt County are of only minor importance for farming. The seasonal high water table and very frequent flooding for brief periods are the major limitations to their use. Most of the acreage is in forest, and the rest is used mainly for pasture. Where crops are grown, response is fairly good to recommended applications of fertilizer and lime.

Representative profile of Bibb fine sandy loam in an area of Bibb complex, 4 miles southeast of Ayden, one-half mile north of State Road No. 1902, 240 feet south of Swift Creek, and 75 feet west of a drainage ditch:

Ap—0 to 4 inches, dark grayish-brown (10YR 4/2) fine sandy loam; weak, medium, granular structure; very friable; many small and medium roots; very strongly acid; abrupt, smooth boundary.

C1g—4 to 17 inches, dark-gray (10YR 4/1) fine sandy loam; few, coarse, faint, gray (10YR 5/1) mottles; massive; very friable; many medium roots and root channels; very strongly acid; clear, wavy boundary.

C2g—17 to 21 inches, very dark gray (10YR 3/1) fine sandy loam; few, medium, distinct, gray (10YR 5/1) mottles; massive; very friable; few medium roots and root channels; very strongly acid; clear, wavy boundary.

C3g—21 to 36 inches, dark-gray (10YR 4/1) sandy loam; many, medium, faint, gray (10YR 5/1) mottles and distinct, light-gray (10YR 7/1) mottles; massive; very friable; very strongly acid; gradual, wavy boundary.

C4g—36 to 72 inches, light-gray (10YR 7/1) sand; many, medium, distinct, dark-gray (10YR 4/1) mottles; single grain; loose; many uncoated sand grains; medium acid.

The A horizon ranges from dark grayish brown to dark gray in color and from 4 to 10 inches in thickness. At depths between 10 and about 40 inches, the C horizon is light-gray to very dark gray fine sandy loam, sandy loam, or loam to sand. It is commonly stratified, but is mainly sandy loam. Below a depth of about 40 inches to a depth of 72 inches or more, the C horizon is dark-gray to light-gray loamy sand to sand.

Bibb complex (Bb).—This mapping unit consists of soils on flood plains and in draws and depressions in the uplands. Slopes are 0 to 1 percent. The areas are long and narrow, and they range from 5 to more than 75 acres in size. The Bibb soils and the other soils in this mapping unit are so intricately mixed that they cannot be separated on a map of the scale used.

About 40 percent of this mapping unit is Bibb soils, and the rest consists of other soils. The Bibb soils have a surface layer of dark grayish-brown fine sandy loam about 4 inches thick. The surface layer is underlain by dark-gray and very dark gray, very friable fine sandy loam mottled with gray. A layer of dark-gray, very friable sandy loam mottled with light gray is at a depth of about 21 inches. Light-gray, loose sand mottled with dark gray is at a depth of about 36 inches and extends to a depth of about 72 inches.

In the other soils, the surface layer and the underlying layers are variable in texture. In about 10 percent of the acreage of soils other than Bibb, the profile is similar to that of Bibb soils but the soils are not acid. In another 10 percent, the soils are acid and have dark grayish-brown and grayish-brown underlying layers. In still another 10 percent, the soils have a very dark gray or black surface layer, and in about 20 percent, the soils are not acid and have dark grayish-brown underlying layers. The remaining 10 percent consist of sandy soils.

Infiltration is moderate, and runoff is slow. Water is ponded in some places.

These soils are easy to keep in good tilth and can be satisfactorily worked throughout a fairly wide range of moisture content. Most of the acreage is in forest, and the rest is chiefly in pasture. Very frequent flooding occurs for brief periods, and wetness is a very severe limitation to use of these soils. Artificial drainage and, in places, dikes are needed for most uses. If properly drained, these soils are fairly well suited to pasture, hay, and a few locally grown field crops. Drained areas are used mainly for corn and soybeans. Capability unit IVw–4; woodland suitability group 2w9.

Bladen Series

The Bladen series consists of poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is dark-gray fine sandy loam about 7 inches thick. The subsoil is about 48 inches thick. In the upper part, the subsoil is light brownish-gray, firm sandy clay mottled with brownish yellow and dark gray. In the lower part, it is gray, very firm clay mottled with strong brown, yellowish brown, and brownish yellow. Below the subsoil and extending to a depth of about 70 inches is gray clay mottled with brownish yellow.

Natural fertility is medium, and the content of organic matter is low. Available water capacity is medium, permeability is slow, and shrink-swell potential is moderate. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Bladen soils in Pitt County are of only minor importance for farming. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Major limitations to the use of these soils are the seasonal high water table, frequent ponding for brief periods, and slow permeability. Where these soils are used for crops, response is good to recommended applications of fertilizer and lime.

Representative profile of Bladen fine sandy loam, 6 miles north of Greenville, 150 feet east of U.S. Highway No. 13 and State Highway No. 11, one-half mile north of the junction of State Highway No. 903 with those highways, and 70 feet south of a field path:

Ap—0 to 7 inches, dark-gray (10YR 4/1) fine sandy loam; weak, medium, granular structure; very friable; many small roots; strongly acid; abrupt, smooth boundary.

B21tg—7 to 14 inches, light brownish-gray (10YR 6/2) sandy clay; few, fine, distinct, brownish-yellow and dark-gray mottles; weak, medium, subangular blocky structure; firm, sticky and plastic; many small and few medium roots; many root channels; few, thin, patchy clay films on faces of peds; very strongly acid; clear, wavy boundary.

B22tg—14 to 40 inches, gray (10YR 5/1) clay; few, medium, distinct, strong-brown (7.5YR 5/8) and yellowish-brown (10YR 5/8) mottles; weak and moderate, medium, angular blocky structure; very firm, very sticky and very plastic; few small and medium roots and root channels; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B23tg—40 to 55 inches, gray (10YR 6/1) clay; few, fine, distinct, brownish-yellow mottles; weak, medium, angular blocky structure; very firm, very sticky and very plastic; few, thin, patchy clay films on the faces of peds; very strongly acid; gradual, wavy boundary

Cg—55 to 70 inches, gray (10YR 6/1) clay; few, medium, distinct, brownish-yellow (10YR 6/8) mottles; massive; very firm, very sticky and very plastic; very strongly acid.

The solum ranges from 50 to more than 60 inches in thickness. The A horizon is dark gray or gray and ranges from 5 to 14 inches in thickness. The B horizon is gray or light brownish-gray to dark-gray sandy clay to clay and is 40 to 55 inches or more thick. It is commonly mottled with yellowish brown, brownish yellow, or strong brown. The C horizon is gray and ranges from sandy clay loam to clay in texture.

Bladen fine sandy loam (Bd).—This is a poorly drained soil on broad flats and in slight depressions in the uplands. It occurs in areas of irregular shape that are 4 to more than 40 acres in size. Slopes are 0 to 1 percent. The surface layer is dark-gray fine sandy loam about 7 inches

thick. The subsoil is about 48 inches thick. In the upper part, the subsoil is light brownish-gray, firm sandy clay mottled with brownish yellow and dark gray. In the lower part, it is gray, very firm clay mottled with strong brown, yellowish brown, and brownish yellow.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of sandy loam or silt loam. Also included were small areas of Leaf, Lenoir, Coxville, Byars, and Pantego soils.

Infiltration is moderate. Runoff is slow to ponded.

This soil is fairly easy to keep in good tilth, but it can be satisfactorily worked only within a fairly narrow range of moisture content. It is frequently ponded for brief periods, and wetness is a severe limitation to its use. Most of the acreage is in forest, and the rest is chiefly cultivated or in pasture. If properly drained, this soil is suited to a few locally grown crops. A system of surface drains is needed where cultivated crops are grown. Areas that are farmed are used mainly for corn, soybeans, small grain, and pasture. Capability unit IIIw–2; woodland suitability group 2w9.

Byars Series

The Byars series consists of very poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is black and very dark gray loam about 13 inches thick. The subsoil is about 50 inches thick. In the upper part, the subsoil is dark-gray, very firm silty clay. In the lower part, it is gray, very firm clay mottled with very dark gray and yellowish brown. Below the subsoil and extending to a depth of about 72 inches is gray sandy clay loam mottled with brownish yellow and bluish gray.

Natural fertility, the content of organic matter, and available water capacity are all medium. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is very strongly acid or extremely acid.

The Byars soils in Pitt County are of only minor importance for farming. A seasonal high water table, infrequent ponding for brief periods, and slow permeability are the major limitations to their use. Most of the acreage is in forest, and the rest is chiefly cultivated or in pasture. In areas used for crops, response is good to recommended applications of fertilizer and lime.

Representative profile of Byars loam, 6 miles southwest of Bethel, 1 mile west of State Road No. 1424, and 50 feet north of pulpwood road in Grindle Pocosin:

O1—1 inch to 0, undecayed grass, pine needles, and leaf mold.
A11—0 to 2 inches, black (10YR 2/1) loam; common, medium, distinct, dark grayish-brown (10YR 4/2) mottles; weak, medium, granular structure; very friable; many small and medium roots; high content of organic matter; very strongly acid; abrupt, smooth boundary.
A12—2 to 11 inches, black (10YR 2/1) loam; weak, medium, granular structure; very friable; many small and medium roots; few medium root channels; very strongly acid; abrupt, smooth boundary.
A13—11 to 13 inches, very dark gray (10YR 3/1) loam; weak, medium, granular structure; very friable; few small and medium roots; few medium root channels; very strongly acid; abrupt, smooth boundary.
B21tg—13 to 21 inches, dark-gray (10YR 4/1) silty clay; weak, medium, angular blocky structure; very firm, sticky and plastic; small and medium roots; few medium root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.
B22tg—21 to 27 inches, gray (10YR 5/1) clay; few, fine, distinct, very dark gray mottles; weak, medium, angular blocky structure; very firm, very sticky and very plastic; few medium roots and root channels; thin, patchy clay films on faces of peds; extremely acid; gradual, wavy boundary.
B23tg—27 to 63 inches, gray (10YR 6/1) clay; few, fine, distinct, very dark gray and yellowish-brown mottles; weak, medium, angular blocky structure; very firm, very sticky and very plastic; few medium root channels; extremely acid; gradual, wavy boundary.
Cg—63 to 72 inches, gray (10YR 6/1) sandy clay loam with lenses of sandy loam; few, fine, distinct, brownish-yellow and bluish-gray mottles; massive; firm, slightly sticky and slightly plastic; extremely acid.

Thickness of the solum ranges from 60 to 70 inches or more. The A horizon is black or very dark gray and ranges from 10 to 20 inches in thickness. The B horizon is gray to dark-gray silty clay and clay and is 50 inches or more thick. It is commonly mottled with yellowish brown and very dark gray. The C horizon is gray and ranges from sandy clay loam to clay in texture.

Byars loam (By).—This is a very poorly drained soil on smooth flats and in slight depressions in the uplands. It occurs in areas of irregular shape that are 5 to more than 40 acres in size. Slopes are 0 to 1 percent. The surface layer is black and very dark gray loam about 13 inches thick. The subsoil is about 50 inches thick. In the upper part, the subsoil is dark-gray, very firm silty clay. In the lower part, it is gray, very firm clay mottled with very dark gray and yellowish brown.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sandy loam, very fine sandy loam, or silt loam. Also included were small areas of Bladen, Leaf, Coxville, and Pantego soils.

Infiltration is moderate. Runoff is very slow to ponded.

This soil is fairly easy to keep in good tilth, but it can be satisfactorily worked only within a fairly narrow range of moisture content. Most of the acreage is in forest, and the rest is used chiefly for cultivated crops and pasture. Water infrequently ponds on the surface for brief periods, and wetness is a severe limitation to use. If properly drained, this soil is suited to a few locally grown crops. Surface drainage is needed if cultivated crops are grown. Areas that are farmed are used mainly for corn, soybeans, small grain, and pasture. Capability unit IIIw–2; woodland suitability group 2w9.

Cape Fear Series

The Cape Fear series consists of very poorly drained, nearly level soils on stream terraces. These soils formed in alluvial sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is black and very dark gray loam about 14 inches thick. The subsoil, about 26 inches thick, is dominantly gray, firm clay mottled with yellowish brown. Below the subsoil and extending to a depth of about 60 inches is light-gray coarse sand mottled with gray.

Natural fertility, the content of organic matter, and available water capacity are all medium. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is very strongly acid.

The Cape Fear soils in Pitt County are of only minor importance for farming. Major limitations to their use are the seasonal high water table, frequent flooding for brief periods, and slow permeability. Most of the acreage is in forest, and the rest is chiefly cultivated or in pasture. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

Representative profile of Cape Fear loam, 3 miles northwest of Greenville on U.S. Highway No. 13 and N.C. Highway No. 11; one-third mile north of State Road No. 1417, 650 feet east of State Road No. 1422, and 70 feet north of a tobacco barn:

Ap—0 to 8 inches, black (10YR 2/1) loam; weak, medium, granular structure; very friable; few small roots; strongly acid; clear, smooth boundary.

A12—8 to 14 inches, very dark gray (10YR 3/1) loam; weak, medium, granular structure; very friable; few small roots; strongly acid; clear, wavy boundary.

B1tg—14 to 17 inches, very dark gray (10YR 3/1) sandy clay; weak, medium, subangular blocky structure; firm, slightly sticky and slightly plastic; few small roots; few thin clay films on faces of peds; few uncoated sand grains; very strongly acid; clear, wavy boundary.

B2tg—17 to 36 inches, gray (10YR 5/1) clay; few, medium, distinct, yellowish-brown (10YR 5/6) mottles; weak, medium, angular blocky structure; firm, sticky and plastic; few small and medium roots; few medium root channels; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3tg—36 to 40 inches, gray (10YR 5/1) clay; weak, medium, subangular blocky structure; firm, slightly sticky and slightly plastic; few small roots; few uncoated sand grains; few lenses of loamy sand and sand; very strongly acid; clear, wavy boundary.

IICg—40 to 60 inches, light-gray (10YR 7/2) coarse sand; many, coarse, distinct, gray (10YR 5/1) mottles; single grain; loose; few uncoated sand grains; very strongly acid.

Thickness of the solum is 40 inches or less. The A horizon is very dark gray to black and ranges from 10 to 20 inches in thickness. The B horizon is gray to very dark gray sandy clay, silty clay, or clay, and it ranges from 20 to 30 inches in thickness. It is commonly mottled with yellowish brown. The C horizon is light gray or gray and ranges from coarse sand to loamy sand in texture.

Cape Fear loam (Ca).—This is a very poorly drained soil on smooth flats and in slight depressions on stream terraces. It occurs in areas of irregular shape that are 3 to 15 acres in size. Slopes are 0 to 1 percent. The surface layer is black and very dark gray loam about 14 inches thick. The subsoil is about 26 inches thick. It is dominantly gray, firm clay mottled with yellowish brown.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sandy loam or silt loam. Also included were small areas of Bibb, Tuckerman, Pantego, and Roanoke soils.

Infiltration is moderate. Runoff is very slow to ponded.

This soil is easy to keep in good tilth, but it can be satisfactorily worked only within a fairly narrow range of moisture content. Most of the acreage is in forest, and the rest is chiefly cultivated or in pasture. Wetness is a very severe limitation, and this soil is frequently flooded for brief periods. If properly drained, it is suited to a few locally grown crops. Areas that are farmed are used primarily for corn, soybeans, small grain, and pasture. A system of surface drains is needed where cultivated crops are grown. Capability unit IVw–2; woodland suitability group 2w9.

Chipley Series

The Chipley series consists of moderately well drained, nearly level and gently sloping soils on uplands and stream terraces. These soils formed in Coastal Plain and alluvial sediment. A seasonal high water table is within about 2½ feet of the surface. White mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is dark grayish-brown sand about 9 inches thick. To a depth of about 42 inches, the underlying layers are light yellowish-brown and very pale brown, loose fine sand and sand mottled with white and brownish yellow. The next layers, to a depth of about 66 inches, are white and light brownish-gray, loose sand and coarse sand mottled with yellowish brown. Below these layers, to a depth of about 86 inches, is mottled white and yellowish-brown coarse sand.

Natural fertility, the content of organic matter, and available water capacity are all very low. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Chipley soils in Pitt County are of only minor importance for farming. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest or in housing developments or other nonfarm uses. Very low natural fertility, the seasonal high water table, and infrequent flooding for brief periods are major limitations to the use of these soils. Where crops are grown, response is fairly good to recommended applications of lime and fertilizer.

Representative profile of Chipley sand 2 miles east of Belvoir, 300 yards south of State Road No. 1001, and 150 feet south of a field ditch:

Ap—0 to 9 inches, dark grayish-brown (10YR 4/2) sand; weak, fine, granular structure; very friable; many small roots; slightly acid; abrupt, smooth boundary.

C1 9 to 14 inches, light yellowish-brown (10YR 6/4) sand; single grain; loose; few small and medium roots; strongly acid; clear, wavy boundary.

C2—14 to 33 inches, very pale brown (10YR 7/4) fine sand; few, medium, distinct, white (10YR 8/1) mottles; single grain; loose; few medium roots; uncoated white sand grains; strongly acid; gradual, wavy boundary

C3—33 to 42 inches, very pale brown (10YR 7/4) sand; common, medium, distinct, white (10YR 8/1) mottles and few, medium, distinct, brownish-yellow (10YR 6/8) mottles; single grain; loose; uncoated white sand grains; strongly acid; gradual, wavy boundary.

C4—42 to 52 inches, white (10YR 8/2) sand; single grain; loose; strongly acid; gradual, wavy boundary.

C5—52 to 66 inches, light brownish-gray (10YR 6/2) coarse sand; few, coarse, distinct, yellowish-brown (10YR 5/8) mottles; single grain; loose; many uncoated sand grains; very strongly acid; gradual, wavy boundary.

C6—66 to 86 inches, mottled, white (10YR 8/1) and yellowish-brown (10YR 5/8) coarse sand; single grain; loose; yellowish-brown, coated sand grains; very strongly acid.

Combined thickness of the sandy horizons is more than 80 inches. The Ap or A1 horizon is dark gray to dark grayish brown and is 5 to 10 inches thick. The upper part of the C horizon ranges from light yellowish brown to very pale brown and from fine sand to coarse sand. Gray or white mottles are at a depth within 10 to 40 inches of the surface. The lower part of the C horizon is commonly white to light brownish-gray sand or coarse sand.

Chipley sand (Ch).—This is a moderately well drained soil on broad flats and on smooth side slopes of uplands and stream terraces. It occurs in areas of irregular shape that are 4 to 20 acres in size. Slopes range from 0 to 4 percent. The surface layer is dark grayish-brown sand about 9 inches thick. To a depth of about 42 inches, the underlying layers are light yellowish-brown and very pale brown, loose fine sand and sand mottled with white and brownish yellow. The next layers, to a depth of about 66 inches, are white and light brownish-gray, loose sand and coarse sand mottled with yellowish brown.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sand. Also included were small areas of Lakeland, Alaga, Pactolus, Osier, and Wagram soils.

Infiltration is rapid. Runoff is slow.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is fairly well suited to most of the locally grown crops, but natural fertility is very low. Also, infrequent flooding occurs for brief periods, and wetness is a severe limitation. About half of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Some artificial drainage is needed in places for optimum returns from most crops. Capability unit IIIw–1; woodland suitability group 2w2.

Coxville Series

The Coxville series consists of poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is dark-gray and gray fine sandy loam about 11 inches thick. The subsoil, about 51 inches thick, is dominantly gray, firm sandy clay mottled with yellowish brown, brownish yellow, and red. Below the subsoil and extending to a depth of about 70 inches is gray sandy clay mottled with reddish yellow.

Natural fertility and available water capacity are medium, and the content of organic matter is low. Permeability is moderately slow, and shrink-swell potential is moderate. In areas that have not received lime, reaction is very strongly acid or extremely acid.

Although most of the acreage is in forest, these soils are fairly important for farming. Areas not in trees are used mainly for cultivated crops and pasture. The major limitations to use of these soils are the seasonal high water table, frequent ponding for brief periods, and moderately slow permeability. Crops respond well to recommended applications of fertilizer and lime.

Representative profile of Coxville fine sandy loam, 0.2 mile south of the city limits of Greenville, 300 feet east of N. C. Highway No. 43, and 250 feet south of an apartment housing project:

Ap—0 to 9 inches, dark-gray (10YR 4/1) fine sandy loam; weak, fine, granular structure; very friable; many small roots; slightly acid; clear, wavy boundary.

A2—9 to 11 inches, gray (10YR 6/1) fine sandy loam; many, fine, distinct, grayish-brown mottles; weak, medium, granular structure; very friable; many small and medium roots and few large roots; few small and medium root channels; strongly acid; clear, smooth boundary.

B1g—11 to 13 inches, grayish-brown (10YR 5/2) sandy clay loam; few, fine, distinct, brownish-yellow mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few small roots; very strongly acid; clear, wavy boundary.

B21tg—13 to 25 inches, gray (10YR 6/1) sandy clay; few, medium, distinct, yellowish-brown (10YR 5/4) mottles; weak, medium, subangular blocky structure; firm, sticky and plastic; few small roots and root channels; thin clay films on vertical faces of peds and in root channels; very strongly acid; gradual, wavy boundary.

B22tg—25 to 62 inches, gray (10YR 6/1) sandy clay; many, medium, distinct, brownish-yellow (10YR 6/6) mottles and few, fine, prominent, red mottles; weak, medium, angular and subangular blocky structure; firm, sticky and plastic; thin, patchy clay films on faces of peds; extremely acid; gradual, wavy boundary.

Cg—62 to 70 inches, gray (10YR 6/1) sandy clay; few, medium, prominent, reddish-yellow (5YR 6/6) mottles; massive; firm, sticky and plastic; pockets and lenses of clay and loamy sand; extremely acid.

The solum is more than 60 inches thick. The A horizon is gray or dark gray and ranges from 8 to 20 inches in thickness. The B1 horizon is gray to grayish brown. The Bt horizon is gray sandy clay to clay loam and is 43 to 55 inches or more thick. The B horizon is commonly mottled with yellowish brown, brownish yellow, and red. The C horizon is gray and is sandy clay to clay.

Coxville fine sandy loam (Co).—This is a poorly drained soil on smooth flats and in slight depressions in the uplands. It occurs in areas of irregular shape that are 4 to more than 40 acres in size. Slopes are 0 to 1 percent. The surface layer is dark-gray and gray fine sandy loam about 11 inches thick. The subsoil, about 51 inches thick, is dominantly gray fine sandy clay mottled with yellowish brown, brownish yellow, and red.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of sandy loam or loam. Also included were small areas of Lenoir, Bladen, and Rains soils.

Infiltration is moderate. Runoff is slow to ponded.

This soil is fairly easy to keep in good tilth, but it can be satisfactorily worked only within a fairly narrow range of moisture content. Most of the acreage is in forest, and the rest is chiefly cultivated or in pasture. If properly drained, this soil is suited to most of the locally grown crops. Wetness is a severe limitation, however, and frequent ponding occurs for brief periods. A complete drainage system is needed if cultivated crops are grown. In areas that are farmed, the crops are mainly corn, soybeans, small grain, and pasture. Capability unit IIIw–2; woodland suitability group 2w9.

Craven Series

The Craven series consists of moderately well drained, nearly level to sloping soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at a depth of about 2½ feet. Gray mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is dark-gray and light-gray fine sandy loam about 12 inches thick. The subsoil is about 43 inches thick and is dominantly very firm clay. In the upper part, the subsoil is brownish yellow and yellowish brown and is mottled with brownish yellow, gray, and red. In the lower part, it is gray mottled with brownish yellow and red. Below the subsoil and extending to a depth of about 78 inches is gray clay mottled with light yellowish brown and red.

Natural fertility and available water capacity are medium, and the content of organic matter is low. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is strongly acid to extremely acid.

The Craven soils in Pitt County are moderately important for farming. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. The seasonal high water table, slow permeability, and slope are the major limitations to use of these soils. Crops respond well to recommended applications of fertilizer and lime.

Representative profile of Craven fine sandy loam, 0 to 1 percent slopes, 3.3 miles south of Grimesland, 1.3 miles south of Boyd's Crossroad, 0.3 mile west of State Road No. 1565, and 70 feet north of State Road No. 1782:

Ap—0 to 7 inches, dark-gray (10YR 4/1) fine sandy loam; weak, fine, granular structure; very friable; many small roots; medium acid; clear, smooth boundary.

A2—7 to 12 inches, light-gray (10YR 7/2) fine sandy loam; weak, fine, granular structure; very friable; many small and medium roots; few medium root channels filled with material from the Ap horizon; strongly acid; clear, smooth boundary.

B1t—12 to 14 inches, light yellowish-brown (2.5Y 6/4) clay loam; weak, medium, subangular blocky structure; firm, sticky and plastic; few small and medium roots and root channels; few, thin, patchy clay films on the faces of peds; very strongly acid; clear, wavy boundary.

B21t—14 to 26 inches, brownish-yellow (10YR 6/6) clay; moderate, medium, angular blocky structure; very firm, very sticky and very plastic; few medium roots and root channels; thin, patchy clay films on the faces of peds; very strongly acid; gradual, wavy boundary.

B22t—26 to 38 inches, yellowish-brown (10YR 5/6) clay; few, fine, faint, brownish-yellow mottles and distinct gray mottles; very firm, very sticky and very plastic; few medium roots and root channels; patchy clay films on the faces of peds; very strongly acid; gradual, wavy boundary.

B23t—38 to 46 inches, yellowish-brown (10YR 5/6) clay; common, medium, prominent, red (2.5YR 4/8) mottles and common, medium, distinct, gray (10YR 6/1) mottles; moderate, medium, angular blocky structure; very firm, very sticky and very plastic; few medium roots and root channels; patchy clay films on the faces of peds; very strongly acid; gradual, wavy boundary.

B3tg—46 to 55 inches, gray (10YR 6/1) clay; few, medium, distinct, brownish-yellow (10YR 6/8) mottles and few, fine, prominent, red mottles; weak, medium, angular blocky and platy structure; very firm, very sticky and very plastic; few, thin, patchy clay films on the faces of peds; very strongly acid; gradual, wavy boundary.

Cg—55 to 78 inches, gray (10YR 6/1) clay; few medium lenses of sandy clay; few, medium, distinct, light yellowish-brown (10YR 6/4) mottles and few, fine, prominent, red mottles; massive; firm, sticky and plastic; extremely acid.

Thickness of the solum ranges from 40 to 60 inches. The A horizon is 3 to 20 inches thick. The A1 or Ap horizon is dark gray to grayish brown in uneroded areas and is very pale brown or brown in eroded areas. The A2 horizon is light gray to pale brown. Thickness of the B horizon ranges from 20 to 57 inches. The B2 horizon is yellowish-brown to brownish-yellow clay that is mottled with gray and red in the lower part. Gray mottles are within 30 inches of the surface. The C horizon is gray clay to loamy sand.

Craven fine sandy loam, 0 to 1 percent slopes (CrA).—This is a moderately well drained soil on broad, smooth divides in the uplands. It occurs in areas of irregular shape that are 5 to 15 acres in size. The profile is the one described as representative of the Craven series. The surface layer is dark-gray and light-gray fine sandy loam about 12 inches thick. The subsoil is about 43 inches thick and is dominantly very firm clay. The upper part of the subsoil is brownish yellow and yellowish brown and is mottled with brownish yellow, gray, and red. The lower part is gray and is mottled with brownish yellow and red. Gray mottles are within 30 inches of the surface.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of sandy loam, very fine sandy loam, silt loam, or loam. Also included were areas of soils that also have a similar profile but that have a combined surface layer and subsoil thickness of about 40 inches or less and are underlain by sandy loam and loamy sand. Other inclusions consist of small areas of Goldsboro, Exum, Nahunta, and Lenoir soils.

Infiltration is moderate. Runoff is slow.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. This soil is well suited to most of the locally grown crops. Wetness is a moderate limitation, however, and artificial drainage is needed for most crops. Areas that are farmed are used mainly for tobacco, cotton, corn, soybeans, small grain, and pasture. Capability unit IIw–1; woodland suitability group 3w2.

Craven fine sandy loam, 1 to 6 percent slopes (CrB).—This is a moderately well drained soil on smooth side slopes in the uplands. It occurs in areas that are long and narrow or irregular in shape and that are 3 to 15 acres in size. The surface layer is grayish-brown fine sandy loam 8 to 15 inches thick. The subsoil is yellowish-brown to brownish-yellow, very firm clay 25 to 57 inches thick. Gray mottles are within 30 inches of the surface.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of sandy loam, very fine silt loam, or silt loam. Also included were a few areas of soils that also have a similar profile but that are underlain by sandy loam or loamy sand and the surface layer and subsoil combined are 40 inches thick or less. Other inclusions consist of small areas of Goldsboro and Exum soils.

Infiltration is moderate. Runoff is medium.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture; the rest is chiefly in forest or in housing developments or other nonfarm uses. This soil is well suited to most of the locally grown crops. In areas that are farmed, it is used mainly for tobacco, cotton, corn, soy-

beans, small grain, and pasture. Because of the slope and runoff, erosion is a moderate hazard. In cultivated areas practices that effectively control runoff and that reduce erosion are needed. Capability unit IIe–3; woodland suitability group 3w2.

Craven fine sandy loam, 1 to 6 percent slopes, eroded (CrB2).—This is a moderately well drained soil on smooth side slopes in the uplands. It occurs in areas of irregular shape that are 3 to 8 acres in size. The surface layer is 3 to 8 inches thick. In many places it is a mixture of soil material from the remaining original surface layer and the subsoil. In the less eroded spots, the present surface layer is dominantly very pale brown or brown fine sandy loam. In the more eroded spots, the surface layer is clay loam or sandy clay. The subsoil is 25 to 52 inches thick and consists of yellowish-brown to brownish-yellow, very firm clay. Gray mottles are within 30 inches of the surface.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of sandy loam or silt loam and a few areas of soils that have slopes greater than 6 percent. Also included were areas of soils that also have a similar profile but that are underlain by sandy loam or loamy sand and in which the combined thickness of the surface layer and subsoil is 40 inches or less. Other inclusions consist of small areas of Goldsboro and Exum soils.

Infiltration is moderately slow. Runoff is medium.

Because the surface layer has been thinned by erosion, this soil is difficult to keep in good tilth. It can be satisfactorily worked only within a narrow range of moisture content. After hard rains a crust forms in the more eroded spots, and clods tend to form if this soil is worked when wet. The crusting and clodding adversely affect germination. As a result, stands of crops are likely to be poor, and an even stand of tobacco is hard to obtain. In places replanting of some crops may be necessary.

Most of the acreage is cultivated or in pasture, and the rest is chiefly in forest. This soil is fairly well suited to most of the locally grown crops. Areas that are farmed are used mainly for tobacco, cotton, corn, soybeans, and pasture. Because of the slope and runoff, further erosion is a moderate hazard. In cultivated areas practices that effectively control runoff and that reduce erosion are needed. Capability unit IIe–3; woodland suitability group 3w2.

Craven fine sandy loam, 6 to 10 percent slopes (CrC).—This is a moderately well drained soil on narrow side slopes in the uplands. The areas range from 3 to 20 acres in size. The surface layer is dark-gray fine sandy loam 8 to 20 inches thick. The subsoil is 20 to 52 inches thick. It consists of yellowish-brown to brownish-yellow, very firm clay that is mottled with gray at depths within about 30 inches of the surface.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have slopes of 10 to 15 percent. Also included were a few small areas of soils that also have a similar profile but that are eroded. Other inclusions consist of small areas of Norfolk and Wagram soils.

Infiltration is moderate. Runoff is rapid.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is in forest, and the rest is chiefly in pasture. This soil is fairly well suited to most of the locally grown crops. Because of the slope and runoff, however, erosion is a severe hazard. Intensive practices that effectively control runoff and that reduce erosion are needed where cultivated crops are grown. Capability unit IIIe–2; woodland suitability group 3w2.

Exum Series

The Exum series consists of moderately well drained, nearly level and gently sloping soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at a depth of about 2½ feet. Gray mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is grayish-brown and light yellowish-brown fine sandy loam about 12 inches thick. The subsoil extends to a depth of about 72 inches. In the upper part, the subsoil is brownish-yellow, friable clay loam mottled with light yellowish brown, light brownish gray, gray, and yellowish red. In the lower part, it is gray, friable sandy clay loam mottled with yellowish red and brownish yellow.

Natural fertility and the content of organic matter are low, and available water capacity is high. Permeability is moderate, and shrink-swell potential is low to moderate. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Exum soils in Pitt County are important for farming. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Major limitations to use of these soils are the seasonal high water table and slope. Crops respond well to recommended applications of fertilizer and lime.

Representative profile of Exum fine sandy loam, 0 to 1 percent slopes, one-fourth mile northwest of Chicod, 65 feet southwest of State Highway No. 43, and 15 feet southwest of telephone pole No. 4:

Ap—0 to 7 inches, grayish-brown (10YR 5/2) fine sandy loam; weak, medium, granular structure; very friable; many small and medium roots; medium acid; abrupt, smooth boundary.

A2—7 to 12 inches, light yellowish-brown (2.5Y 6/4) fine sandy loam; weak, medium, granular structure; very friable; few medium roots; medium acid; clear, wavy boundary.

B1t—12 to 15 inches, brownish-yellow (10YR 6/6) clay loam; weak, medium, subangular blocky structure; friable; few medium roots and root channels; few, thin, patchy clay films on faces of peds; strongly acid; gradual, wavy boundary.

B21t—15 to 26 inches, brownish-yellow (10YR 6/6) clay loam; few, medium, distinct, light yellowish-brown (10YR 6/4) mottles; weak, medium, subangular blocky structure; friable; medium roots and root channels; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22t—26 to 44 inches, brownish-yellow (10YR 6/6) clay loam; few, medium, distinct, light brownish-gray (10YR 6/2) mottles; weak, medium, subangular blocky structure; friable, sticky and plastic; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B23t—44 to 62 inches, brownish-yellow (10YR 6/6) clay loam; common, medium, distinct, gray (10YR 5/1) mottles and few, medium, prominent, yellowish-red (5YR

5/8) mottles; weak, medium, angular blocky structure; friable, sticky and plastic; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3tg—62 to 72 inches, gray (10YR 6/1) sandy clay loam; common, medium, prominent, yellowish-red (5YR 5/8) mottles and few, medium, distinct, brownish-yellow (10YR 6/8) mottles; weak, medium, angular blocky and platy structure; friable; very strongly acid.

The solum is more than 60 inches thick. The A horizon is 7 to 20 inches thick. The A1 or Ap horizon is dark grayish brown or grayish brown, and the A2 horizon is light yellowish brown to pale yellow. The B horizon is 40 to more than 53 inches thick. It is mottled with yellowish red and yellowish brown and also has grayish mottles within 30 inches of the surface. The B2 horizon is brownish yellow to yellowish brown and is silty clay loam or clay loam. The B3 horizon is commonly gray sandy clay loam. The C horizon is gray loamy sand to clay.

Exum fine sandy loam, 0 to 1 percent slopes (ExA).—This is a moderately well drained soil on broad, smooth divides in the uplands. It occurs in areas of irregular shape that are 5 to 35 acres in size. The profile is the one described as representative of the Exum series. The surface layer is grayish-brown and light yellowish-brown fine sandy loam about 12 inches thick. The subsoil extends to a depth of about 72 inches. In the upper part, the subsoil is brownish-yellow, friable clay loam mottled with light yellowish brown, light brownish gray, gray, and yellowish red. In the lower part, it is gray, friable sandy clay loam mottled with yellowish red and brownish yellow.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of silt loam, very fine sandy loam, sandy loam, or loam. Also included were small areas of Aycock, Norfolk, Goldsboro, and Nahunta soils.

Infiltration is moderate. Runoff is slow.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. This soil is well suited to all the locally grown crops, and it is especially well suited to tobacco, peanuts, and cotton. Wetness is a moderate limitation. In places artificial drainage is needed for optimum returns from tobacco and other crops that require good drainage. Capability unit IIw–1; woodland suitability group 2w8.

Exum fine sandy loam, 1 to 6 percent slopes (ExB).—This is a moderately well drained soil on smooth side slopes in the uplands. It occurs in areas that are long and narrow or irregular in shape and that are 3 to 12 acres in size. The surface layer is grayish-brown fine sandy loam 7 to 20 inches thick. The subsoil is dominantly brownish-yellow, friable clay loam 40 to more than 53 inches thick. Gray mottles are within 30 inches of the surface.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of silt loam, sandy loam, or loam. Also included were areas of soils that also have a similar profile but that are moderately to severely eroded in some spots. Other inclusions consist of small areas of Aycock, Norfolk, and Craven soils.

Infiltration is moderate. Runoff is medium.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. This soil is well suited to all the locally grown crops. Because of slopes and runoff, however, erosion is a moderate hazard. Where cultivated crops are grown, practices that effectively control runoff and that reduce erosion are needed. Tobacco, peanuts, and cotton are the principal crops. Capability unit IIe–2; woodland suitability group 2w8.

Goldsboro Series

The Goldsboro series consists of moderately well drained, nearly level and gently sloping soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at a depth of about 2½ feet. Gray mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is dark-gray and light yellowish-brown sandy loam about 17 inches thick. The subsoil is about 48 inches thick and is friable sandy clay loam. The upper part of the subsoil is dominantly brownish yellow and is mottled with strong brown and gray. The lower part is gray and is mottled with brownish yellow and red. A layer of light-gray sandy clay loam mottled with gray is below the subsoil and extends to a depth of about 75 inches.

Natural fertility and the content of organic matter are low, and available water capacity is medium. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Goldsboro soils in Pitt County are important for farming. Most of the acreage is cultivated or in pasture, and the rest is chiefly in forest and in housing developments or other nonfarm uses. Major limitations to use of these soils are the seasonal high water table and slope. In areas used for crops, response is good to recommended applications of fertilizer and lime.

Representative profile of Goldsboro sandy loam, 0 to 1 percent slopes, 1 mile east of Piney Grove Church, 1 mile south of Frog Level, 450 feet north of State Road No. 1128, and 20 feet east of a field path:

Ap—0 to 7 inches, dark-gray (10YR 4/1) sandy loam; weak, fine, granular structure; very friable; many small roots; medium acid; clear, smooth boundary.

A2—7 to 17 inches, light yellowish-brown (2.5Y 6/4) sandy loam; weak, medium, granular structure; very friable; many small and few medium roots; few medium root channels; dark-gray material in old root channels; medium acid; gradual, wavy boundary.

B1t—17 to 20 inches, olive-yellow (2.5Y 6/6) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B21t—20 to 27 inches, brownish-yellow (10YR 6/6) sandy clay loam; few, medium, distinct, strong-brown (7.5YR 5/8) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22t—27 to 49 inches, brownish-yellow (10YR 6/6) sandy clay loam; common, medium, distinct, gray (10YR

5/1) mottles and few, fine, distinct, strong-brown mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3tg—49 to 65 inches, gray (10YR 6/1) sandy clay loam; common, medium, distinct, brownish-yellow (10YR 6/8) mottles and few, fine, prominent, red mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

Cg—65 to 75 inches, light-gray (10YR 7/1) sandy clay loam; common, medium, faint, gray (10YR 5/1) mottles; massive; friable, slightly sticky and slightly plastic; very strongly acid.

The solum is 60 inches or more thick. The A horizon is 9 to 20 inches thick. The Ap or A1 horizon is dark gray to grayish brown, and the A2 horizon is light yellowish brown to pale brown. The B horizon is olive yellow to brownish yellow in the upper part and is gray in the lower part. It is sandy clay loam to sandy loam and is 40 to more than 51 inches thick. Gray mottles are at depths within 30 inches of the surface. The C horizon is commonly light gray or gray. Its texture ranges from sand to clay, but it is dominantly sandy clay loam.

Goldsboro sandy loam, 0 to 1 percent slopes (GoA).—This is a moderately well drained soil on broad, smooth divides in the uplands. It occurs in areas of irregular shape that are 4 to 15 acres in size. The profile is the one described as representative of the Goldsboro series. The surface layer is dark-gray and light yellowish-brown sandy loam about 17 inches thick. The subsoil is about 48 inches thick and is friable sandy clay loam. The upper part of the subsoil is dominantly brownish yellow and is mottled with strong brown and gray. The lower part is gray and is mottled with brownish yellow and red.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have slopes of more than 1 percent; a few areas of soils that have a surface layer of loamy fine sand or fine sandy loam; and small areas of Norfolk, Lynchburg, and Rains soils.

Infiltration is moderate. Runoff is slow.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is in cultivated crops or pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. This soil is well suited to all the locally grown crops, but wetness is a moderate limitation. In places artificial drainage is needed for optimum returns from tobacco and other crops that require good drainage. Capability unit IIw–1; woodland suitability group 2w8.

Goldsboro sandy loam, 1 to 6 percent slopes (GoB).—This is a moderately well drained soil on smooth side slopes in the uplands. It occurs in areas of irregular shape that are less than 4 acres to as much as 14 acres in size. The surface layer is grayish-brown sandy loam 9 to 20 inches thick. The subsoil is olive-yellow to brownish-yellow, friable sandy clay loam and is 40 to more than 51 inches thick. The lower part of the subsoil is commonly gray. Gray mottles are within 30 inches of the surface.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have slopes of less than 1 percent or of more than 6 percent. Also included were small moderately eroded areas and a few areas of soils that have a surface layer of loamy fine sand or fine sandy loam. Other inclusions consist of small areas of Norfolk, Aycock, and Exum soils.

Infiltration is moderate. Runoff is medium.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is in cultivated crops or pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. This soil is well suited to all the locally grown crops, but erosion is a moderate hazard. Where cultivated crops are grown, practices that effectively control runoff and that reduce erosion are needed. Capability unit IIe–2; woodland suitability group 2w8.

Lakeland Series

The Lakeland series consists of excessively drained, nearly level and gently sloping soils on uplands and stream terraces. These soils formed in Coastal Plain and alluvial sediment. A seasonal high water table is below a depth of 5 feet.

In a typical profile, the surface layer is dark-brown sand about 7 inches thick. The next layer is brownish-yellow, loose fine sand that extends to a depth of about 29 inches. Below that layer and extending to a depth of about 82 inches is loose coarse sand that is brownish yellow in the upper part and is pale yellow in the lower part.

Natural fertility, the content of organic matter, and available water capacity are all very low. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is medium acid to strongly acid.

The Lakeland soils in Pitt County are of only minor importance for farming. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest and in housing developments or other nonfarm uses. The major limitations to use of these soils are very low natural fertility, very low available water capacity, and droughtiness. These soils are also subject to soil blowing, and they lose plant nutrients readily as a result of leaching. Where crops are grown, response to recommended applications of fertilizer and lime is rather poor.

Representative profile of Lakeland sand, 0 to 6 percent slopes, 1 mile west of Greenville, 80 feet west of wildlife access road across from State Highway Commission's sandpit, at west end of Greenville Airport:

Ap—0 to 7 inches, dark-brown (10YR 4/3) sand; single grain; loose; few small roots; strongly acid; abrupt, smooth boundary.

C1—7 to 29 inches, brownish-yellow (10YR 6/6) fine sand; single grain; loose; few small roots in upper 6 inches of horizon; sand grains are coated; strongly acid; gradual, wavy boundary.

C2—29 to 68 inches, brownish-yellow (10YR 6/6) coarse sand; single grain; loose; few fine pebbles; sand grains are coated; medium acid; gradual, wavy boundary.

C3—68 to 82 inches, pale-yellow (2.5Y 7/4) coarse sand; single grain; loose; few fine pebbles; medium acid.

Combined thickness of the sandy horizons is more than 80 inches. The Ap or A1 horizon is dark grayish brown or dark brown and is 5 to 10 inches thick. The C horizon is brownish yellow to pale yellow and has a texture of fine sand to coarse sand.

Lakeland sand, 0 to 6 percent slopes (LaB).—This is an excessively drained, sandy soil in broad, undulating areas and on rounded divides in the uplands and on stream terraces. It occurs in areas of irregular shape that are 4 to 25 acres in size. The surface layer is dark-brown sand about 7 inches thick. It is underlain by a layer of brownish-yellow, loose fine sand that extends to a depth of about 29 inches. Below that layer, to a depth of about 82 inches, is loose coarse sand that is brownish yellow in the upper part and is pale yellow in the lower part.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have slopes of more than 6 percent; a few areas in which the surface layer is fine sand; and small areas of Alaga, Chipley, Pactolus, and Wagram soils.

Infiltration is rapid. Runoff is slow.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest or in housing developments and other nonfarm uses. This soil is fairly well suited to most of the locally grown crops. Because of the thick layers of sand, however, very low natural fertility, droughtiness, and susceptibility to soil blowing are very severe limitations in cultivated areas. In addition, this soil loses plant nutrients readily as a result of leaching. Practices that effectively control soil blowing and that maintain productivity are needed. Capability unit IVs–1; woodland suitability group 4s2.

Leaf Series

The Leaf series consists of poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is dark-gray silt loam about 6 inches thick. The subsoil, about 44 inches thick, is gray, very firm clay and silty clay mottled with brownish yellow, dark gray, and red. The upper part of the underlying material extends to a depth of about 70 inches and is gray clay mottled with brownish yellow. The lower part, to a depth of about 80 inches, is grayish-brown sandy loam mottled with gray.

Natural fertility is medium, and the content of organic matter is low. Available water capacity is high. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is very strongly acid or extremely acid.

The Leaf soils in Pitt County are of only minor importance for farming. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. The seasonal high water table, frequent ponding for brief periods, and slow permeability are the major limitations to use of these soils. Where crops are grown, response is good to recommended applications of fertilizer and lime.

Representative profile of Leaf silt loam, 0.2 mile north of Coxville, 110 feet east of State Road No. 1753, and 60 feet south of a field ditch:

Ap—0 to 6 inches, dark-gray (10YR 4/1) silt loam; weak, medium, granular structure; very friable; many small and medium roots; strongly acid; clear, wavy boundary.

B21tg—6 to 19 inches, gray (10YR 6/1) clay; common, medium, distinct, brownish-yellow (10YR 6/6) mottles and few, fine, distinct, dark-gray mottles; weak, prismatic structure parting to moderate, medium, angular blocky structure; very firm, very sticky and very plastic; many small roots and root channels; few medium roots and root channels; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22tg—19 to 35 inches, gray (10YR 5/1) silty clay; common, medium, distinct, brownish-yellow (10YR 6/8) mottles and few, fine, prominent, red mottles; moderate, medium, angular blocky structure; very firm, very sticky and very plastic; few small and medium roots and root channels; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3tg—35 to 50 inches, gray (10YR 6/1) clay; many, coarse, distinct, brownish-yellow (10YR 6/8) mottles and few, fine, prominent, red mottles; moderate, medium, angular blocky structure; very firm, very sticky and very plastic; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

C1g—50 to 70 inches, gray (10YR 6/1) clay; few, fine, distinct, brownish-yellow mottles; massive; very firm, very sticky and very plastic; extremely acid; gradual, wavy boundary.

IIC2g—70 to 80 inches, grayish-brown (10YR 5/2) sandy loam containing lenses of clay; few, medium, faint, gray (10YR 5/1) mottles; massive; friable; extremely acid.

Thickness of the solum ranges from 40 to 60 inches or more. The A horizon is dark gray or gray and is 5 to 14 inches thick. The B horizon is clay and silty clay and is 26 to 55 inches thick. Mottles in the B horizon are dark gray, brownish yellow, or red. The C horizon is commonly gray to grayish brown, and it ranges from sandy loam to clay in texture.

Leaf silt loam (le).—This is a poorly drained soil on smooth flats and in slight depressions in the uplands. It occurs in areas of irregular shape that are 5 to more than 75 acres in size. Slopes are 0 to 1 percent. The surface layer is dark-gray silt loam about 6 inches thick. The subsoil, about 44 inches thick, is gray, very firm clay and silty clay mottled with brownish yellow, dark gray, and red.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of very fine sandy loam or loam. Also included were small areas of Lenoir, Bladen, Coxville, Byars, and Pantego soils.

Infiltration is moderate. Runoff is slow to ponded.

This soil is difficult to keep in good tilth and can be satisfactorily worked only within a narrow range of moisture content. Clods tend to form if tillage takes place when the content of moisture in the soil is slightly low or is slightly high. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. If properly drained, this soil is suited to a few locally grown crops. It is subject to frequent ponding for brief periods, however, and wetness is a severe limitation. Artificial drainage is needed if cultivated crops are grown. Corn and soybeans are the main crops in cultivated areas. Capability unit IIIw–2; woodland suitability group 2w9.

Lenoir Series

The Lenoir series consists of somewhat poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is

at a depth of about 1½ feet. Gray mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is dark-gray loam about 8 inches thick. The subsoil is about 64 inches thick. The upper part of the subsoil is dominantly yellowish-brown, very firm clay mottled with light brownish gray and red; the middle part is gray, very firm clay and silty clay mottled with brownish yellow and red; and the lower part is gray, firm sandy clay mottled with brownish yellow. Below the subsoil and extending to a depth of about 80 inches is gray loamy sand mottled with light yellowish brown.

Natural fertility is medium, and the content of organic matter is low. Available water capacity is high. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Lenoir soils in Pitt County are important for farming. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest. The seasonal high water table, slow permeability, and infrequent flooding in places are major limitations to use of these soils. Crops respond well to recommended applications of fertilizer and lime.

Representative profile of Lenoir loam, 0 to 1 percent slopes, 1½ miles south of Calico, 0.4 mile west of State Highway No. 43, and 150 feet south of State Road No. 1927:

Ap—0 to 8 inches, dark-gray (10YR 4/1) loam; weak, medium, granular structure; very friable; many small and medium roots; medium acid; abrupt, smooth boundary.

B1—8 to 11 inches, light yellowish-brown (10YR 6/4) silt loam; weak, medium, subangular blocky structure; friable; many small roots; few small root channels; very strongly acid; clear, wavy boundary.

B21t—11 to 20 inches, yellowish-brown (10YR 5/6) clay; many, medium, distinct, light brownish-gray (10YR 6/2) mottles and few, fine, distinct, red mottles; weak, medium, angular blocky structure; very firm, sticky and plastic; few small roots; few medium root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22tg—20 to 48 inches, gray (10YR 5/1) clay; common, fine, distinct, brownish-yellow and prominent, red mottles; moderate, medium, angular blocky structure; very firm, very sticky and very plastic; few medium roots and root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B23tg—48 to 55 inches, gray (10YR 6/1) silty clay; common, medium, distinct, brownish-yellow (10YR 6/8) mottles and few, fine, prominent, red mottles; weak, medium, angular blocky structure; very firm, very sticky and very plastic; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3tg—55 to 72 inches, gray (10YR 6/1) sandy clay; few, medium, distinct, brownish-yellow (10YR 6/8) mottles; weak, medium, angular blocky structure; firm, slightly sticky and slightly plastic; very strongly acid; gradual, wavy boundary.

IICg—72 to 80 inches, gray (10YR 6/1) loamy sand; common, medium, distinct, light yellowish-brown (10YR 6/4) mottles; single grain; very friable; few fine pebbles; very strongly acid.

The solum is 60 inches or more thick. The A horizon is dark gray or dark grayish brown and is 5 to 20 inches thick. The B horizon is 45 to 65 inches thick. The upper part of the Bt horizon is yellowish brown mottled with red and with grayish colors. The lower part is gray mottled with brownish yellow and red. Texture of the Bt horizon is clay, silty clay, or sandy clay. The C horizon is commonly gray, and it ranges from loamy sand to clay in texture.

Lenoir loam, 0 to 1 percent slopes (LoA).—This is a somewhat poorly drained soil on broad divides in the uplands. It occurs in areas of irregular shape that are 5 to 40 acres or more in size. The surface layer is dark-gray loam about 8 inches thick. The subsoil is about 64 inches thick. The upper part of the subsoil is dominantly yellowish-brown, very firm clay mottled with light brownish gray and red; the middle part is gray, very firm clay and silty clay mottled with brownish yellow and red; and the lower part is gray, firm sandy clay mottled with brownish yellow.

Included with this soil in mapping were small eroded areas and areas of soils that have a similar profile but that have a surface layer of silt loam or fine sandy loam. Also included were small areas of Craven, Nahunta, Coxville, Leaf, and Bladen soils.

Infiltration is moderate. Runoff is slow.

This soil is fairly easy to keep in good tilth, but it can be satisfactorily worked only within a fairly narrow range of moisture content. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest. Wetness is a severe limitation. If this soil is properly drained, however, it is fairly well suited to most of the locally grown crops. Artificial drainage is needed for optimum returns from all crops. Areas that are farmed are used mainly for corn, soybeans, small grain and, pasture. Capability unit IIIw–4; woodland suitability group 2w8.

Lenoir Series, Thin Solum Variant

Soils of the Lenoir series, thin solum variant, are somewhat poorly drained and are nearly level or gently sloping. They are on stream terraces, where they formed in alluvial sediment. A seasonal high water table is at a depth of about 1½ feet beneath the surface. Grayish mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is grayish-brown fine sandy loam about 7 inches thick. The subsoil is about 29 inches thick. The upper part of the subsoil is light yellowish-brown, friable sandy clay loam mottled with brownish yellow; the middle part is brownish-yellow, very firm clay mottled with light brownish gray; and the lower part is gray, very firm clay mottled with brownish yellow. Below the subsoil and extending to a depth of about 58 inches is gray loamy sand and coarse sand.

Natural fertility is medium, and the content of organic matter is low. Available water capacity is high. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is strongly acid or very strongly acid.

In Pitt County soils of the Lenoir series, thin solum variant, are important for farming. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest. The major limitations to use of these soils are the seasonal high water table, slow permeability, and, in places, infrequent flooding. Crops respond well to recommended applications of fertilizer and lime.

Representative profile of Lenoir fine sandy loam, thin solum variant, 0 to 3 percent slopes, 2 miles east of Belvoir, 370 feet south of State Road No. 1001, and 50 feet east of State Road No. 1402:

Ap—0 to 7 inches, grayish-brown (10YR 5/2) fine sandy loam; weak, fine, granular structure; very friable; small roots; slightly acid; abrupt, smooth boundary.

B1t—7 to 11 inches, light yellowish-brown (10YR 6/4) sandy clay loam; many, medium, distinct, brownish-yellow (10YR 6/6) mottles; weak, medium, subangular blocky structure; friable; few small and medium roots; few medium root channels and cracks filled with grayish-brown soil material from the A horizon; few, thin, patchy clay films on faces of peds; very strongly acid; abrupt, smooth boundary.

B21tg—11 to 20 inches, brownish-yellow (10YR 6/8) clay; many, coarse, distinct, light brownish-gray (10YR 6/2) mottles; moderate, medium, angular blocky structure; very firm, plastic and sticky; few medium roots and root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22tg—20 to 36 inches, gray (10YR 6/1) clay; few, medium, distinct, brownish-yellow (10YR 6/8) mottles; moderate, medium, angular blocky structure; very firm, sticky and plastic; few medium root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

IIC1g—36 to 40 inches, gray (10YR 6/1) loamy sand containing lenses of clay loam; massive; very friable; very strongly acid; gradual, wavy boundary.

IIC2g—40 to 58 inches, gray (10YR 6/1) coarse sand; single grain; loose; sand grains coated with brownish yellow (10YR 6/8); very strongly acid; gradual, wavy boundary.

Thickness of the solum is 40 inches or less. The A horizon is 5 to 10 inches thick and is dark gray to grayish brown. The B horizon is gray, light yellowish-brown, yellowish-brown, or brownish-yellow clay, silty clay, or sandy clay loam and is about 20 to 30 inches thick. The C horizon is gray loamy sand or coarse sand.

Lenoir fine sandy loam, thin solum variant, 0 to 3 percent slopes (lnA).—This is a somewhat poorly drained soil that occupies broad divides on stream terraces. It occurs in areas of irregular shape that are 5 to 20 acres in size. The surface layer is grayish-brown fine sandy loam about 7 inches thick. The subsoil is about 29 inches thick. The upper part of the subsoil is light yellowish-brown, friable sandy clay loam mottled with brownish yellow; the middle part is brownish-yellow, very firm clay mottled with light brownish gray; and the lower part is gray, very firm clay mottled with brownish yellow.

Included with this soil in mapping were small eroded areas and areas of soils that have a similar profile but that have a surface layer of silt loam or loam. Also included were small areas of Craven and Roanoke soils.

Infiltration is moderate. Runoff is slow.

This soil is fairly easy to keep in good tilth, but it can be satisfactorily worked only within a fairly narrow range of moisture content. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest. Infrequent flooding occurs for brief periods, and wetness is a severe limitation. If this soil is properly drained, however, it is fairly well suited to most of the locally grown crops. Artificial drainage is needed for optimum returns from all crops. Areas that are farmed are used mainly for corn, soybeans, small grain, and pasture. Capability unit IIIw–4; woodland suitability group 2w8.

Lynchburg Series

The Lynchburg series consists of somewhat poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at a depth of about 1½ feet. Gray mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is dark-gray and pale-brown fine sandy loam about 10 inches thick. The subsoil is about 52 inches thick. The upper part of the subsoil is dominantly brownish-yellow, friable sandy clay loam mottled with light brownish gray and gray; the middle part is gray, friable sandy clay loam mottled with brownish yellow and strong brown; and the lower part is gray, friable sandy loam mottled with brownish yellow.

Natural fertility and the content of organic matter are low, and available water capacity is medium. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Lynchburg soils in Pitt County are important for farming. Most of the acreage is cultivated or in pasture, and the rest is chiefly in forest. The seasonal high water table is the major limitation to use of these soils. In areas that are farmed, crops respond well to recommended applications of fertilizer and lime.

Representative profile of Lynchburg fine sandy loam, one-half mile east of Carson, one-half mile east of State Road No. 1550, and 100 feet west of a road in a cultivated field:

Ap—0 to 7 inches, dark-gray (10YR 4/1) fine sandy loam; weak, fine, granular structure; very friable; many small roots; slightly acid; abrupt, smooth boundary.

A2—7 to 10 inches, pale-brown (10YR 6/3) fine sandy loam; few, fine, distinct, brownish-yellow mottles; weak, medium, granular structure; very friable; many small and few medium roots; medium acid; clear, wavy boundary.

B1t—10 to 13 inches, pale-brown (10YR 6/3) sandy clay loam; few, medium, distinct, brownish-yellow (10YR 6/8) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; few, thin, patchy clay films on faces of peds; strongly acid; clear, wavy boundary.

B21tg—13 to 19 inches, brownish-yellow (10YR 6/6) sandy clay loam; many, medium, distinct, light brownish-gray (10YR 6/2) mottles and few, medium, distinct, gray (10YR 5/1) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; few, thin, patchy clay films on faces of peds, on faces of old cracks, and in root channels; very strongly acid; gradual, wavy boundary.

B22tg—19 to 41 inches, gray (10YR 6/1) sandy clay loam; many, medium, distinct, brownish-yellow (10YR 6/8) and few, medium, distinct, strong-brown (7.5YR 5/8) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels in upper part of horizon; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B23tg—41 to 48 inches, gray (10YR 6/1) sandy clay loam; many, medium, distinct, strong-brown (7.5YR 5/8) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3g—48 to 62 inches, gray (10YR 6/1) sandy loam containing lenses of sandy clay loam; few, medium, distinct, brownish-yellow (10YR 6/8) mottles; weak, coarse, subangular blocky structure; friable; very strongly acid.

Thickness of the solum is 60 inches or more. The A horizon ranges from 8 to 20 inches in thickness. The Ap or A1 horizon is dark gray or gray, and the A2 horizon is pale brown to light olive brown. The B2 horizon is brownish yellow in the upper part and is gray in the lower part. It is friable sandy clay loam to sandy loam. Gray mottles are in the upper part of the B horizon, and brownish-yellow and strong-brown mottles are in the lower part. The B horizon is more than 40 inches thick. The C horizon is gray loamy sand or sandy loam to clay.

Lynchburg fine sandy loam (ly).—This is a somewhat poorly drained soil on smooth flats and in slight depressions in the uplands. It occurs in areas of irregular shape that are 4 to 22 acres in size. Slopes are 0 to 1 percent. The surface layer is dark-gray and pale-brown fine sandy loam about 10 inches thick. The subsoil is about 52 inches thick. The upper part of the subsoil is dominantly brownish-yellow, friable sandy clay loam mottled with light brownish gray and gray; the middle part is gray, friable sandy clay loam mottled with brownish yellow and strong brown; and the lower part is gray, friable sandy loam mottled with brownish yellow.

Included with this soil in mapping were small areas of soils that have a similar profile but that have a surface layer of loamy sand, loamy fine sand, or sandy loam. Also included were small areas of Goldsboro, Ocilla, Exum, and Rains soils.

Infiltration is moderate. Runoff is slow.

This soil is easy to keep in good tilth. It can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture, and the rest is chiefly in forest. Wetness is a moderate limitation. If this soil is properly drained, however, it is well suited to all the locally grown crops. Areas that are farmed are used mainly for corn, soybeans, small grain, and pasture (fig. 2). Surface drains or tile drains, and in some places both surface drains and tile drains, are needed in cultivated areas. Capability unit IIw–2; woodland suitability group 2w8.

Masada Series

The Masada series consists of well-drained, nearly level and gently sloping soils on stream terraces. These soils formed in alluvial sediment. A seasonal high water table is below a depth of 5 feet.

In a typical profile, the surface layer is grayish-brown and pale-yellow sandy loam about 12 inches thick. The subsoil is about 24 inches thick. It is dominantly brownish-yellow, friable sandy clay loam in the upper part and brownish-yellow, friable sandy loam in the lower part. Below the subsoil, to a depth of about 60 inches, is brownish-yellow and pale-yellow sand and coarse sand.

Natural fertility and the content of organic matter are low, and available water capacity is medium. Permeability is moderate, and shrink-swell potential is low.

Figure 2.—Cattle grazing in a pasture of Ladino clover and fescue on Lynchburg fine sandy loam.

In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Masada soils in Pitt County are of only minor importance for farming, but most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Slope is the major limitation to use of these soils. Where crops are grown, response is good to recommended applications of fertilizer and lime.

Representative profile of Masada sandy loam, 0 to 4 percent slopes, 4 miles north of Grimesland, 80 feet west of State Road No. 1565, 90 feet north of Seaboard Coast Line Railroad, and 300 feet south of State Highway No. 33:

Ap—0 to 7 inches, grayish-brown (2.5Y 5/2) sandy loam; weak, fine, granular structure; very friable; many small roots; medium acid; abrupt, smooth boundary.

A2—7 to 12 inches, pale-yellow (2.5Y 7/4) sandy loam; weak, fine, granular structure; very friable; many small and few medium roots; strongly acid; clear, smooth boundary.

B1t—12 to 15 inches, yellow (10YR 7/6) sandy loam; weak, medium, subangular blocky structure; friable; few medium roots and root channels; few, thin, patchy clay films on faces of peds; few fine mica flakes; strongly acid; clear, wavy boundary.

B2t—15 to 30 inches, brownish-yellow (10YR 6/8) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; few, thin, patchy clay films on faces of peds; few fine mica flakes; strongly acid; gradual, wavy boundary.

B3t 30 to 36 inches, brownish-yellow (10YR 6/8) sandy loam; weak, medium, subangular blocky structure; friable; few, thin, patchy clay films on faces of peds; few fine mica flakes; very strongly acid; gradual, wavy boundary.

IIC1—36 to 50 inches, brownish-yellow (10YR 6/8) sand; single grain; loose; few fine mica flakes; very strongly acid; gradual, wavy boundary.

IIC2—50 to 60 inches, pale-yellow (2.5Y 7/4) coarse sand; single grain; loose; many fine gravel fragments; very strongly acid.

Thickness of the solum is 40 inches or less. The A horizon ranges from 5 to 20 inches in thickness. The Ap or A1 horizon is dark gray, grayish brown, or dark grayish brown, and the A2 horizon is pale yellow to light yellowish brown. The B horizon is yellow or brownish-yellow to strong-brown sandy clay loam to sandy loam and is 20 to 35 inches thick. The C horizon is commonly brownish-yellow to pale-yellow loamy sand to coarse sand. In places the C horizon lacks gravel.

Masada sandy loam, 0 to 4 percent slopes (MoB).—This is a well-drained soil that occupies broad divides on stream terraces. It occurs in long, narrow areas and in areas of irregular shape that range from 4 to 10 acres in size. The surface layer is grayish-brown and pale-yellow sandy loam about 12 inches thick. The subsoil is about 24 inches thick. It is dominantly brownish-yellow, friable sandy clay loam in the upper part and brownish-yellow, friable sandy loam in the lower part.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sandy loam, loamy fine sand, or loamy sand. Also included were small areas of Wickham, Altavista, Wagram, and Ocilla soils.

Infiltration is moderate. Runoff is slow to medium.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. This soil is well suited to all the locally grown crops, but erosion is a moderate hazard because of the slope. In cultivated areas practices that effectively control runoff and that reduce erosion are needed. Areas that are farmed are used mostly for row crops, especially for tobacco, peanuts, and cotton. Capability unit IIe–1; woodland suitability group 3o7.

Nahunta Series

The Nahunta series consists of somewhat poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at a depth of about 1½ feet. Gray mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is black, dark-gray, and pale-yellow silt loam about 12 inches thick. The subsoil is about 53 inches thick. The upper part of the subsoil is brownish-yellow, friable silt loam mottled with light gray. The middle and lower parts are gray, friable silty clay loam mottled with brownish yellow and yellowish red. Below the subsoil and extending to a depth of about 72 inches is gray silty clay loam mottled with brownish yellow.

Natural fertility and the content of organic matter are low, and available water capacity is high. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is very strongly acid or extremely acid.

The Nahunta soils in Pitt County are of only minor importance for farming, but about half of the acreage is cultivated or in pasture. The rest is chiefly in forest. The seasonal high water table is the major limitation to use of these soils. Where crops are grown, response is good to recommended applications of fertilizer and lime.

Representative profile of Nahunta silt loam in a wooded area, 2 miles southeast of Black Jack and 300 feet east of State Road No. 1785:

O1—2 inches to 0, partly decayed and fresh-fallen debris of pine and oak trees, myrtle bushes, and grass.

A11 0 to 3 inches, black (10YR 2/1) silt loam; weak, fine, granular structure; very friable; many small roots; very strongly acid; abrupt, smooth boundary.

A12—3 to 5 inches, dark-gray (10YR 4/1) silt loam; weak, fine, granular structure; very friable; many small and medium roots; very strongly acid; clear, smooth boundary.

A2—5 to 12 inches, pale-yellow (2.5Y 7/4) silt loam; weak, fine, granular structure; friable, slightly sticky and slightly plastic; many small and medium roots; many medium root channels; very strongly acid; gradual, wavy boundary.

B21tg—12 to 20 inches, brownish-yellow (10YR 6/6) silt loam; common, medium, distinct, light-gray (10YR 7/1) mottles; weak, fine, subangular blocky structure; friable, slightly sticky and slightly plastic; few small and medium roots; few medium root channels; few, thin, patchy clay films and silt coats on faces of peds; very strongly acid; gradual, wavy boundary.

B22tg 20 to 30 inches, gray (10YR 6/1) silty clay loam; many, medium, distinct, brownish-yellow (10YR 6/8) mottles; weak, medium, subangular blocky structure; friable, sticky and plastic; few medium roots and root channels; few, thin, patchy clay films and silt coats on vertical faces of peds; very strongly acid; gradual, wavy boundary.

B23tg—30 to 54 inches, gray (10YR 6/1) silty clay loam; common, medium, distinct, brownish-yellow (10YR 6/8) and yellowish-red (5YR 5/8) mottles; weak, medium, subangular blocky structure; friable, sticky and plastic; few, thin, patchy clay films and silt coats on faces of peds; very strongly acid; gradual, wavy boundary.

B3tg—54 to 65 inches, gray (10YR 6/1) silty clay loam; many, medium, distinct, brownish-yellow (10YR 6/8) mottles; weak, fine, subangular blocky structure; friable, sticky and plastic; few, thin, patchy clay films and silt coats on faces of peds; extremely acid; gradual, wavy boundary.

Cg—65 to 72 inches, gray (10YR 6/1) silty clay loam; common, medium, distinct, brownish-yellow (10YR 6/8) mottles; massive; firm, sticky and plastic; extremely acid.

The solum is more than 60 inches thick. The A horizon is 7 to 20 inches thick. The A1 or Ap horizon is gray or dark gray to black. Where this horizon is black, it is less than 6 inches thick. The A2 horizon is pale yellow to pale brown. In the upper part, the B horizon is brownish yellow to yellowish brown and is mottled with gray or light gray. In the lower part, it is gray or light gray and is mottled with brownish yellow, yellowish brown, and yellowish red. The B horizon is silty clay loam, clay loam, or silt loam, and it is 40 to more than 53 inches thick. The C horizon is grayish sandy loam to clay, but it is dominantly silty clay loam.

Nahunta silt loam (Na).—This is a somewhat poorly drained soil on broad, smooth divides in the uplands. It occurs in areas of irregular shape that are 4 to 55 or more acres in size. Slopes are 0 to 1 percent. The surface layer is black, dark-gray, and pale-yellow silt loam about 12 inches thick. The subsoil is about 53 inches thick. The upper part of the subsoil is brownish-yellow, friable silt loam mottled with light gray. The middle and lower parts are gray, friable silty clay loam mottled with brownish yellow and yellowish red.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of very fine sandy loam or loam. Also included were small areas of Exum, Goldsboro, Lenoir, Leaf, Bladen, and Coxville soils.

Infiltration is moderate. Runoff is slow.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest. Wetness is a moderate limitation to use, but this soil is suited to most of the locally grown crops if it is properly drained. In cultivated areas surface drains or tile drains, and in some places both surface drains and tile drains, are needed. Areas that are farmed are used mainly for corn, soybeans, small grain, and pasture. Capability unit IIw–2; woodland suitability group 2w8.

Norfolk Series

The Norfolk series consists of well-drained, nearly level and gently sloping soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is below a depth of 5 feet.

In a typical profile, the surface layer is dark grayish-brown and light yellowish-brown sandy loam about 10 inches thick. The subsoil is olive yellow and brownish yellow to a depth of about 84 inches. In the upper part, the subsoil is friable sandy clay loam mottled with red. In the lower part, it is friable sandy loam mottled with red and gray.

Natural fertility and the content of organic matter are low, and available water capacity is medium. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Norfolk soils of Pitt County are important for farming. Slope is the major limitation to their use. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Where crops are grown, response is good to recommended applications of fertilizer and lime.

Representative profile of Norfolk sandy loam, 0 to 1 percent slopes, in a cultivated field, 1 mile west of Fountain, 200 feet north of State Highway No. 222, and 75 feet east of State Road No. 1231:

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) sandy loam; weak, fine, granular structure; very friable; few small roots; slightly acid; abrupt, smooth boundary.

A2—7 to 10 inches, light yellowish-brown (2.5Y 6/4) sandy loam; weak, medium, granular structure; very friable; few medium roots; few medium root channels filled with material from the Ap horizon; medium acid; abrupt, smooth boundary.

B1—10 to 14 inches, olive-yellow (2.5Y 6/8) sandy clay loam; weak, medium, subangular blocky structure; friable; few medium roots and root channels; strongly acid; clear, wavy boundary.

B21t—14 to 40 inches, brownish-yellow (10YR 6/8) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; thin, patchy clay films on faces of peds; strongly acid; gradual, wavy boundary.

B22t—40 to 60 inches, brownish-yellow (10YR 6/8) sandy clay loam; few, medium, prominent, red (2.5YR 5/8) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B23t—60 to 72 inches, brownish-yellow (10YR 6/6) sandy clay loam; many, medium, prominent, red (2.5YR 5/8) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; thin, patchy clay films on faces of peds; less than 5 percent of horizon is plinthite; very strongly acid; gradual, wavy boundary.

B3t—72 to 84 inches, brownish-yellow (10YR 6/6) sandy loam; many, medium, prominent, red (2.5YR 5/8) and distinct, gray (10YR 6/1) mottles; weak, medium, subangular blocky structure; friable; less than 5 percent of horizon is plinthite; the gray mottled material contains less clay than the red and more coarse sand grains; very strongly acid.

Thickness of the solum is 60 inches or more. The A horizon is 5 to 20 inches thick. The Ap or A1 horizon ranges from dark grayish brown or grayish brown in uneroded areas to light yellowish brown in eroded places. The A2 horizon is light yellowish brown to pale yellow. The B horizon is olive yellow to brownish yellow. It is sandy clay loam to sandy loam but is dominantly sandy clay loam. The B horizon is 40 inches to more than 55 inches thick. The C horizon commonly consists of stratified loamy material, but it is variable in texture.

Norfolk sandy loam, 0 to 1 percent slopes (NrA).—This is a well-drained soil on broad, smooth divides in the uplands. It occurs in areas of irregular shape that are 4 to 15 acres in size. The profile is the one described as representative of the Norfolk series. The surface

layer is dark grayish-brown and light yellowish-brown sandy loam about 10 inches thick. The subsoil is olive yellow to brownish yellow. The upper part of the subsoil is friable sandy clay loam mottled with red. The lower part is friable sandy loam mottled with red and gray to a depth of about 84 inches.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of loamy fine sand or fine sandy loam. Also included were a few small areas of soils that also have a similar profile but that have a more reddish subsoil. Other inclusions consist of small areas of Goldsboro, Lynchburg, and Wagram soils.

Infiltration is moderate. Runoff is slow.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It has no major limitations to intensive use and is well suited to all the locally grown crops. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Areas that are farmed are used mainly for row crops, especially for tobacco (fig. 3), peanuts, and cotton. Capability unit I–1; woodland suitability group 2o1.

Norfolk sandy loam, 1 to 6 percent slopes (NrB).—This is a well-drained soil on smooth side slopes in the uplands. It occurs in areas of irregular shape that are less than 4 acres to as much as 12 acres in size. The surface layer is dark grayish-brown or grayish-brown sandy loam 7 to 20 inches thick. The subsoil is olive-yellow to brownish-yellow, friable sandy clay loam to sandy loam and is 40 to more than 55 inches thick.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have slopes of more than 6 percent. Also included were small areas of Goldsboro, Exum, and Aycock soils.

Infiltration is moderate. Runoff is medium.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is well suited to all the locally grown crops, but erosion is a moderate hazard because of slope. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Areas that are farmed are used mainly for row crops, especially for tobacco, peanuts, and cotton. In cultivated areas practices that effectively control runoff and that reduce erosion are needed. Capability unit IIe–1; woodland suitability group 2o1.

Figure 3.—**Irrigating tobacco that is growing on Norfolk sandy loam, 0 to 1 percent slopes. This soil is well suited to tobacco.**

Norfolk sandy loam, 1 to 6 percent slopes, eroded (NrB2).—This is a well-drained soil on smooth side slopes in the uplands. It occurs in areas of irregular shape that are less than 3 to more than 8 acres in size. The surface layer is 5 to 8 inches thick. In most places it is a mixture of material from the remaining original surface layer and the subsoil. The present surface layer is light yellowish-brown in the more eroded areas and is grayish brown in the less eroded spots. The subsoil is olive-yellow to brownish-yellow, friable sandy clay loam to sandy loam and is 52 to more than 55 inches thick.

Included with this soil in mapping were a few areas of soils that have a similar profile but that are severely eroded and have a surface layer of sandy clay loam. Also included were small areas of soils that have a similar profile but that have slopes of more than 6 percent. Other inclusions consist of small areas of Aycock, Goldsboro, and Exum soils.

Infiltration is moderately slow. Runoff is medium.

Because its surface layer has been thinned by erosion, this soil is rather difficult to keep in good tilth. It can be satisfactorily worked throughout a fairly wide range of moisture content. After hard rains, a crust forms in the more eroded spots, however, and clods tend to form if this soil is worked when too wet. The crusting and clodding adversely affect germination. As a result, stands of crops are poor and uneven. For some crops replanting of these areas may be necessary. Where the stand is uneven, the tobacco ripens at different times, harvesting and curing are difficult, and the quality of the crop is reduced.

This soil is suited to all the locally grown crops, but further erosion is a moderate hazard because of the slope and runoff. Most of the acreage is in cultivated crops and pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. The cultivated areas are used mainly for row crops, especially for tobacco, peanuts, and cotton. Practices that effectively control runoff and that reduce erosion are needed in cultivated areas. Capability unit IIe–1; woodland suitability group 2o1.

Ocilla Series

The Ocilla series consists of somewhat poorly drained, nearly level and gently sloping soils on uplands and stream terraces. These soils formed in Coastal Plain and alluvial sediment. A seasonal high water table is at a depth of about 2½ feet. Gray mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is loamy fine sand about 22 inches thick. The surface layer is dark gray in the upper part and is pale brown in the lower part. The subsoil is about 47 inches thick and is friable sandy clay loam. The upper part of the subsoil is yellow and is mottled with brownish yellow. The lower part is brownish yellow and is mottled with gray. Below the subsoil and extending to a depth of about 75 inches is gray sandy clay loam mottled with light yellowish brown.

Natural fertility, the content of organic matter, and available water capacity are all low. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Ocilla soils in Pitt County are moderately important for farming. The seasonal high water table is the major limitation to their use. Most of the acreage is cultivated or in pasture, and the rest is in forest or in housing developments or other nonfarm uses. In areas that are farmed, crops respond well to applications of fertilizer and lime.

Representative profile of Ocilla loamy fine sand, 0 to 4 percent slopes, one-third mile south of Hanrahan, 660 feet west of Seaboard Coast Line Railroad, 20 feet west of a field path, and 42 feet southwest of telephone pole No. 602:

Ap—0 to 8 inches, dark-gray (10YR 4/1) loamy fine sand; weak, fine, granular structure; very friable; many small roots; medium acid; abrupt, smooth boundary.

A2—8 to 22 inches, pale-brown (10YR 6/3) loamy fine sand; weak, fine, granular structure; very friable; few small and medium roots; few medium root channels filled with material from the Ap horizon; medium acid; gradual, wavy boundary.

B1—22 to 28 inches, yellow (10YR 7/6) sandy clay loam; few, fine, distinct, brownish-yellow mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B2t—28 to 69 inches, brownish-yellow (10YR 6/6) sandy clay loam; common, medium, distinct, gray (10YR 6/1) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium root channels in upper half of horizon; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

Cg—69 to 75 inches, gray (10YR 6/1) sandy clay loam; few coarse lenses of loamy sand and sand; few, medium, distinct, light yellowish-brown (10YR 6/4) mottles; massive; friable, slightly sticky and slightly plastic; very strongly acid.

Thickness of the solum is 60 inches or more. Thickness of the A horizon is 20 to 40 inches. The Ap or A1 horizon is gray, dark gray, or dark grayish brown, and the A2 horizon is pale brown to light yellowish brown. The B horizon is yellow to brownish-yellow sandy clay loam to sandy loam. Gray mottles are within 30 inches of the surface. Thickness of the B horizon ranges from 20 to more than 40 inches. The C horizon has a grayish color. Texture of the C horizon ranges from loamy sand to sandy clay but is dominantly sandy clay loam.

Ocilla loamy fine sand, 0 to 4 percent slopes (OcB).—This is a somewhat poorly drained soil on broad flats and smooth side slopes in the uplands and on stream terraces. It occurs in areas of irregular shape that are less than 4 acres to as much as 20 acres in size. The surface layer is loamy fine sand about 22 inches thick. It is dark gray in the upper part and is pale brown in the lower part. The subsoil is about 47 inches thick and is friable sandy clay loam. The upper part of the subsoil is yellow and is mottled with brownish yellow. The lower part is brownish yellow and is mottled with gray.

Included with this soil in mapping were small areas of soils that have a similar profile but that have a surface layer of loamy sand. Also included were small areas of moderately well drained and of somewhat poorly drained soils in draws and depressions. Other inclusions consist of areas of Lynchburg and Rains soils.

Infiltration is rapid. Runoff is slow.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of mois-

ture content. Most of the acreage is cultivated or in pasture, and the rest is chiefly in forest and in housing developments or other nonfarm uses. Wetness is a severe limitation, but this soil is suited to most of the locally grown crops. Artificial drainage is needed for most crops. Capability unit IIIw–1; woodland suitability group 3w2.

Olustee Series, Sandy Subsoil Variant

Soils of the Olustee series, sandy subsoil variant, are very poorly drained and are nearly level. They are on uplands and stream terraces, where they formed in Coastal Plain and alluvial sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is black loamy sand about 12 inches thick. Beneath the surface layer and extending to a depth of about 18 inches is a layer of dark reddish-brown fine sand that is coated with organic matter. To a depth of about 42 inches, the next layers are grayish-brown and light brownish-gray fine sand. Below them and extending to a depth of about 85 inches are layers of light-gray sand and coarse sand.

Natural fertility is very low, and the content of organic matter is medium. Available water capacity is low. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

These soils are of only minor importance for farming. The seasonal high water table, frequent flooding for brief periods, and very low natural fertility are the major limitations to their use. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Where crops are grown, response is fairly good to recommended applications of fertilizer and lime.

Representative profile of Olustee loamy sand, sandy subsoil variant, 2 miles east of Grifton, 200 feet south of State Road No. 1753, and 20 feet east of State Road No. 1915:

Ap—0 to 12 inches, black (10YR 2/1) loamy sand; weak; fine, granular structure; very friable; many small roots; very strongly acid; clear, smooth boundary.

Bh—12 to 18 inches, dark reddish-brown (5YR 2/2) fine sand; weak, fine, granular structure; friable; many small and few medium roots; sand grains well coated with organic matter; very strongly acid; clear, wavy boundary.

C1g—18 to 30 inches, grayish-brown (10YR 5/2) fine sand; single grain; loose; few medium roots; very strongly acid; gradual, wavy boundary.

C2g—30 to 42 inches, light brownish-gray (10YR 6/2) fine sand; single grain; loose; strongly acid; gradual, wavy boundary.

C3g—42 to 75 inches, light-gray (10YR 7/1) sand; single grain; loose; strongly acid; gradual, wavy boundary.

C4g—75 to 85 inches, light-gray (10YR 7/1) coarse sand; single grain; loose; few fine pebbles; strongly acid.

Combined thickness of the sandy horizons is more than 80 inches. The A horizon is black or very dark gray and is 10 to 20 inches thick. The Bh horizon is 4 to 8 inches thick. The sand grains in that horizon are well coated with organic matter, and they give the Bh horizon a dark reddish-brown color. The C horizon is grayish-brown and light brownish-gray to light-gray fine sand to coarse sand. It ranges from 60 to more than 70 inches in thickness.

These soils are variants to the Olustee series. Bt horizons are lacking beneath the Bh horizon, but the profile is otherwise similar to that of normal Olustee soils.

Olustee loamy sand, sandy subsoil variant (Oe).—This is a very poorly drained, sandy soil on smooth flats and in slight depressions in the uplands and on stream terraces. It occurs in areas of irregular shape that are 3 to 15 acres in size. Slopes are 0 to 1 percent. The surface layer is black loamy sand about 12 inches thick. It is underlain by a layer of dark reddish-brown fine sand that is coated with organic matter and is about 6 inches thick. To a depth of about 42 inches, the next layers are grayish-brown and light brownish-gray fine sand. Below these layers and extending to a depth of about 85 inches are layers of light-gray sand and coarse sand.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of loamy fine sand. Also included were small areas of soils that have a similar profile but that lack the dark reddish-brown layer that is stained with organic matter. Other inclusions consist of small areas of Osier, Tuckerman, Pantego, and Portsmouth soils.

Infiltration is rapid. Runoff is slow.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is in forest, however, and the rest is chiefly in cultivated crops or pasture. Wetness is a very severe limitation, and use of this soil is limited by the seasonal high water table, frequent flooding, and very low natural fertility. Artificial drainage is needed for most uses. If properly drained, this soil is fairly well suited to a few of the locally grown crops. Areas that are farmed are used mainly for corn, soybeans, and pasture. Capability unit IVw-1; woodland suitability group 3w2.

Osier Series

The Osier series consists of poorly drained, nearly level soils on uplands and stream terraces. These soils formed in Coastal Plain and alluvial sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is loamy sand and is about 19 inches thick. It is very dark grayish brown in the upper part and is dark grayish brown in the lower part. The next layers consist of gray and dark-gray fine sand over very dark grayish-brown sand and gray loamy sand that extends to a depth of about 62 inches. Underlying these layers is light brownish-gray sandy loam that extends to a depth of about 80 inches.

Natural fertility is very low, and the content of organic matter and available water capacity are low. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Osier soils in Pitt County are of only minor importance for farming. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Major limitations to the use of these soils are the seasonal high water table, very low natural fertility, and frequent flooding for brief periods. In areas that are farmed, crops respond fairly well to recommended applications of fertilizer and lime.

Representative profile of Osier loamy sand, loamy substratum, 3 miles east of Belvoir, 1.75 miles southeast of

the Gum Swamp Church, 200 feet west of State Road No. 1414, and 30 feet west and 30 feet north of a wooded area:

Ap—0 to 6 inches, very dark grayish-brown (10YR 3/2) loamy sand; weak, fine, granular structure; very friable; few small roots; strongly acid; abrupt, smooth boundary.
AC—6 to 19 inches, dark grayish-brown (10YR 4/2) loamy sand; single grain; very friable; few medium roots; medium acid; abrupt, smooth boundary.
C1g—19 to 35 inches, gray (10YR 6/1) fine sand; single grain; loose; few medium roots; strongly acid; clear, wavy boundary.
C2g—35 to 42 inches, dark-gray (10YR 4/1) fine sand; single grain; loose; strongly acid; clear, wavy boundary.
C3g—42 to 54 inches, very dark grayish-brown (10YR 3/2) sand; single grain; loose; strongly acid; clear, wavy boundary.
C4g—54 to 62 inches, gray (10YR 6/1) loamy sand; single grain; very friable; strongly acid; clear, wavy boundary.
C5g—62 to 80 inches, light brownish-gray (10YR 6/2) sandy loam; massive; friable; very strongly acid.

The Ap or A1 horizon is dark gray to very dark grayish brown and is 5 to 10 inches thick. Where the color is very dark grayish brown, thickness of the Ap or A1 horizon is 6 inches or less. To a depth of more than 60 inches, the C horizon is gray or dark-gray to very dark grayish-brown loamy sand to sand. The lower part of the C horizon is commonly light brownish-gray sandy loam.

Osier loamy sand, loamy substratum (Os).—This is a poorly drained soil on broad flats and in slight depressions in the uplands and on stream terraces. The areas are of irregular shape and range from 4 to 16 acres in size. Slopes are 0 to 1 percent. The surface layer is about 19 inches thick and is loamy sand that is very dark grayish brown in the upper part and is dark grayish brown in the lower part. To a depth of about 62 inches, the next layers consist of gray and dark-gray fine sand that is underlain by very dark grayish-brown sand and gray loamy sand.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of loamy fine sand or sand. Also included were small areas of Chipley, Pactolus, Olustee, and Tuckerman soils.

Infiltration is rapid. Runoff is slow.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Wetness is a very severe limitation, and frequent flooding for brief periods, the seasonal high water table, and very low natural fertility are additional limitations. Artificial drainage is needed for most uses. Most of the acreage is in forest, and the rest is used chiefly for cultivated crops or pasture. This soil is fairly well suited to a few of the locally grown crops if it is properly drained. Areas that are farmed are used mainly for corn, soybeans, and pasture. Capability unit IVw 1; woodland suitability group 3w3.

Pactolus Series

The Pactolus series consists of moderately well drained, nearly level soils on uplands and stream terraces. These soils formed in Coastal Plain and alluvial sediment. A seasonal high water table is at a depth of about 2½ feet. Gray mottles are within the zone affected by the high water table.

In a typical profile, the surface layer is dark-gray loamy sand about 8 inches thick. To a depth of about 36 inches, the underlying layers consist of yellow and brownish-yellow, very friable loamy sand that is mottled with light gray and strong brown. The next layer extends to a depth of about 64 inches and is white, loose loamy fine sand mottled with brownish yellow. Beneath this layer and extending to a depth of about 90 inches is yellow, loose coarse sand mottled with white.

Natural fertility and the content of organic matter are very low, and available water capacity is low. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is slightly acid to very strongly acid.

The Pactolus soils in Pitt County are of only minor importance for farming, but most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. The major limitations to use of these soils are the seasonal high water table and very low natural fertility. Where crops are grown, response is fairly good to recommended applications of fertilizer and lime.

Representative profile of Pactolus loamy sand, 1 mile east of Greenville, one-fourth mile north of State Highway No. 30, and 100 feet east of State Road No. 1523:

Ap—0 to 8 inches, dark-gray (10YR 4/1) loamy sand; weak, medium, granular structure; very friable; many small roots; slightly acid; abrupt, smooth boundary.
C1—8 to 26 inches, yellow (10YR 7/6) loamy sand; single grain; very friable; few small roots; slightly acid; gradual, wavy boundary.
C2—26 to 36 inches, brownish-yellow (10YR 6/6) loamy sand; few, medium, distinct, light-gray (10YR 7/1) and strong-brown (7.5YR 5/8) mottles; single grain; very friable; very strongly acid; abrupt, wavy boundary.
C3—36 to 64 inches, white (10YR 8/2) loamy fine sand; few, fine, faint, brownish-yellow mottles; single grain; loose; slightly acid; gradual, wavy boundary.
C4—64 to 90 inches, yellow (10YR 7/6) coarse sand; common, medium, distinct, white (10YR 8/1) mottles; single grain; loose; common fine pebbles; medium acid.

Combined thickness of the sandy horizons is more than 80 inches. The Ap or A1 horizon is dark gray to dark grayish brown and is 5 to 10 inches thick. The upper part of the C horizon is yellow or brownish-yellow, very friable or loose loamy sandy or loamy fine sand. Grayish mottles are at depths between 20 and 40 inches from the surface. The lower part of the C horizon is white or yellow loamy fine sand, sand, or coarse sand. It commonly contains pebbles.

Pactolus loamy sand (Pc).—This is a moderately well drained soil on broad, smooth divides in the uplands and on stream terraces. It occurs in areas of irregular shape that are 4 to 20 acres in size. Slopes range from 0 to 2 percent. The surface layer is dark-gray loamy sand about 8 inches thick. To a depth of about 36 inches, the underlying layers consist of yellow and brownish-yellow, very friable loamy sand that is mottled with light gray and strong brown. The next layer extends to a depth of about 64 inches and consists of white, loose loamy fine sand mottled with brownish yellow. Beneath this layer and extending to a depth of about 90 inches is yellow, loose coarse sand mottled with white.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of loamy fine sand. Also included were small areas of Lakeland, Alaga, Chipley, and Osier soils.

Infiltration is rapid. Runoff is slow.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest or in housing developments or other nonfarm uses. This soil is fairly well suited to most of the locally grown crops. Wetness is a severe limitation, however, and natural fertility is very low because of the thick layers of sandy material. Artificial drainage is needed in cultivated areas. Capability unit IIIw–1; woodland suitability group 3w2.

Pantego Series

The Pantego series consists of very poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is black loam about 14 inches thick. The subsoil is friable sandy clay loam about 55 inches thick. The upper part of the subsoil is light brownish gray and is mottled with dark gray and gray. The lower part is gray. A layer of light-gray sandy loam mottled with light yellowish brown is below the subsoil and extends to a depth of about 80 inches.

Natural fertility is low, and the content of organic matter and available water capacity are medium. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is very strongly acid.

The Pantego soils in Pitt County are of only minor importance for farming. The seasonal high water table and frequent ponding for brief periods are the major limitations to their use. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Where crops are grown, response is good to recommended applications of fertilizer and lime.

Representative profile of Pantego loam, 1.1 miles south of State Road No. 1708, 600 feet west of State Road No. 1709, and 50 feet north of a field path:

Ap—0 to 8 inches black (10YR 2/1) loam; weak, fine, granular structure; very friable; many small roots; medium acid; clear, smooth boundary.

A12—8 to 14 inches, black (10YR 2/1) loam; weak, fine, granular structure; very friable; few small roots; common uncoated sand grains; strongly acid; clear, smooth boundary.

B1tg—14 to 19 inches, light brownish-gray (10YR 6/2) sandy clay loam; common, medium, distinct, dark-gray (10YR 4/1) mottles; weak, medium and fine, subangular blocky structure; friable; few small roots and root channels; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B2tg—19 to 56 inches, light brownish-gray (10YR 6/2) sandy clay loam; common, medium, faint, gray (10YR 6/1) mottles; weak, medium, subangular blocky structure; friable; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3g—56 to 69 inches, gray (10YR 5/1) sandy clay loam; few lenses of loamy sand; weak, medium, subangular blocky structure; friable; very strongly acid; gradual, wavy boundary.

Cg—69 to 80 inches, light-gray (10YR 7/1) sandy loam; lenses of loamy sand; few, medium, distinct, light yellowish-brown (10YR 6/4) mottles; massive; friable; very strongly acid.

The solum is more than 60 inches thick. The A horizon is black or very dark gray and is 10 to 20 inches thick. The B horizon is light brownish-gray to gray sandy clay loam, sandy loam, or clay loam and is more than 50 inches thick. The B horizon is commonly mottled with brownish yellow and yellowish brown. The C horizon is light gray or gray. It ranges from sand to loam in texture but is commonly sandy loam.

Pantego loam (Pg).—This is a very poorly drained soil on broad flats and in slight depressions in the uplands. It occurs in areas of irregular shape that are 4 to more than 40 acres in size. Slopes are 0 to 1 percent. The surface layer is black loam about 14 inches thick. The subsoil is friable sandy clay loam about 55 inches thick. The upper part of the subsoil is light brownish gray and is mottled with dark gray and gray. The lower part is gray.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sandy loam. Also included were small areas of Rains and Olustee soils.

Infiltration is moderate. Runoff is very slow or ponded.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Wetness is a severe limitation to its use, however, and ponding frequently occurs for brief periods. Most of the acreage is in forest. The rest is chiefly in cultivated crops or pasture. A system of surface drains or tile drains, and in some places both surface drains and tile drains, is needed for most uses. Where this soil is adequately drained, it is well suited to a few of the locally grown crops. Areas that are farmed are used mainly for corn, soybeans, small grain, and pasture. Capability unit IIIw–3; woodland suitability group 1w9.

Portsmouth Series

The Portsmouth series consists of very poorly drained, nearly level soils on stream terraces. These soils formed in alluvial sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is very dark gray and very dark grayish-brown loam about 15 inches thick. The subsoil is about 24 inches thick. The upper part of the subsoil is dark-gray, friable sandy loam mottled with grayish brown. The lower part is grayish-brown, friable sandy clay loam mottled with yellowish brown. Below the subsoil and extending to a depth of about 68 inches is grayish-brown and light brownish-gray sand and coarse sand.

Natural fertility is low, and the content of organic matter and available water capacity are medium. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Portsmouth soils in Pitt County are of only minor importance for farming. Major limitations to their use are the seasonal high water table and frequent flooding for brief periods. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Where crops are grown they respond well to recommended applications of fertilizer and lime.

Representative profile of Portsmouth loam, 1 mile east of Greenville, 0.7 mile north of State Highway No. 30, 70 feet east of State Road No. 1523, 50 feet south of a

field path, and 65 feet southeast of power pole No. SPC-40-5:

Ap—0 to 8 inches, very dark gray (10YR 3/1) loam; weak, medium, granular structure; very friable; many small roots; strongly acid; clear, smooth boundary.

A12—8 to 15 inches, very dark grayish-brown (10YR 3/2) loam; weak, medium, granular structure; very friable; many small and few medium roots; strongly acid; clear, smooth boundary.

B1g—15 to 22 inches, dark-gray (10YR 4/1) sandy loam; many, fine, distinct, grayish-brown mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; few, thin, patchy clay films on vertical faces of peds and in old root channels; very strongly acid; gradual, wavy boundary.

B2tg—22 to 39 inches, grayish-brown (10YR 5/2) sandy clay loam; few, fine, distinct, yellowish-brown mottles; weak, medium, subangular blocky structure; friable, sticky and plastic; few, thin, patchy clay films on faces of peds and in old root channels; very strongly acid; clear, wavy boundary.

IIC1g—39 to 52 inches, grayish-brown (10YR 5/2) sand; single grain; loose; very strongly acid; gradual, wavy boundary.

IIC2g—52 to 68 inches, light brownish-gray (10YR 6/2) coarse sand; single grain; loose; few fine pebbles and crushed oystershells; strongly acid.

Thickness of the solum is 40 inches or less. The A horizon is very dark gray or very dark grayish brown to black and is 10 to 20 inches thick. The B horizon is gray or dark-gray to grayish-brown sandy clay loam to sandy loam and is 20 to 30 inches thick. A few yellowish-brown or grayish-brown mottles are commonly in the B horizon. The C horizon is grayish-brown to light brownish-gray loamy sand to coarse sand. It commonly contains fine pebbles.

Portsmouth loam (Po).—This is a very poorly drained soil on broad, smooth flats and in slight depressions. It is on stream terraces and occurs in areas of irregular shape that are 3 to 20 acres in size. Slopes are 0 to 1 percent. The surface layer is very dark gray and very dark grayish-brown loam about 15 inches thick. The subsoil is about 24 inches thick. The upper part of the subsoil is dark-gray, friable sandy loam mottled with grayish brown. The lower part is grayish-brown, friable sandy clay loam mottled with yellowish brown.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sandy loam. Also included were small areas of Tuckerman, Cape Fear, and Olustee soils.

Infiltration is moderate. Runoff is very slow or ponded.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is in forest, however, and the rest is chiefly in cultivated crops or pasture. Flooding frequently occurs for brief periods, and wetness is a severe limitation. A system of surface drains or tile drains is needed for most uses, and both surface drains and tile drains are needed in some places. If properly drained, this soil is well suited to a few locally grown crops. Areas that are farmed are used mainly for corn, soybeans, and pasture. Capability unit IIIw-3; woodland suitability group 1w9.

Rains Series

The Rains series consists of poorly drained, nearly level soils on uplands. These soils formed in Coastal Plain sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is dark-gray and light brownish-gray fine sandy loam about 13 inches thick. The lower part of the surface layer is mottled with yellowish brown and pale brown. The subsoil, about 49 inches thick, is gray, friable sandy clay loam mottled with brownish yellow and yellowish brown. Gray sandy clay loam mottled with yellowish brown is beneath the subsoil and extends to a depth of about 74 inches.

Natural fertility and the content of organic matter are low. Available water capacity is medium. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid.

The Rains soils in Pitt County are moderately important for farming. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest. Major limitations to the use of these soils are the seasonal high water table and frequent ponding for brief periods. Crops respond well to recommended applications of fertilizer and lime.

Representative profile of Rains fine sandy loam, 4 miles northeast of Farmville, 300 feet north of State Highway No. 121, and 150 feet west of State Road No. 1259:

Ap—0 to 8 inches, dark-gray (10YR 4/1) fine sandy loam; weak, fine, granular structure; very friable; many small roots; medium acid; abrupt, smooth boundary.

A2g—8 to 13 inches, light brownish-gray (10YR 6/2) fine sandy loam; few, medium, distinct, yellowish-brown (10YR 5/6) and pale-brown (10YR 6/3) mottles; weak, medium, granular structure; very friable; few medium roots and root channels; medium acid; abrupt, smooth boundary.

B21tg—13 to 32 inches, gray (10YR 6/1) sandy clay loam; few, medium, distinct, brownish-yellow (10YR 6/6) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots; few medium and small root channels; few, thin, patchy clay films on faces of peds; very strongly acid; clear, wavy boundary.

B22tg—32 to 38 inches, gray (10YR 6/1) sandy clay loam; common, medium, distinct, yellowish-brown (10YR 5/8) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium root channels; thin, patchy clay films on faces of peds; very strongly acid; clear, wavy boundary.

B23tg—38 to 62 inches, gray (10YR 5/1) sandy clay loam; few, medium, distinct, brownish-yellow (10YR 6/8) mottles; weak, medium, subangular blocky structure; friable; slightly sticky and slightly plastic; thin, patchy clay films on faces of peds; very strongly acid; clear, wavy boundary.

Cg—62 to 74 inches, gray (10YR 5/1) sandy clay loam; few, fine, distinct, yellowish-brown mottles; massive; friable, slightly sticky and slightly plastic; very strongly acid.

Thickness of the solum is 60 inches or more. Thickness of the A horizon is 10 to 20 inches. The Ap or A1 horizon is dark gray to dark grayish brown, and the A2 horizon is light brownish gray to gray. The B horizon is sandy clay loam to sandy loam, and it is about 50 inches thick. Mottles in the B horizon are yellowish brown and brownish yellow. The C horizon is gray loamy sand to clay, but it is dominantly sandy clay loam.

Rains fine sandy loam (Ra).—This is a poorly drained soil on broad flats and in slight depressions in the uplands. It occurs in areas of irregular shape that are 4 to 25 acres in size. Slopes are 0 to 1 percent. The surface

layer is dark-gray and light brownish-gray fine sandy loam about 13 inches thick. The lower part of the surface layer is mottled with yellowish brown and pale brown. The subsoil, about 49 inches thick, is gray, friable sandy clay loam mottled with brownish yellow and yellowish brown.

Included with this soil in mapping were small areas of soils that have a similar profile but that have a surface layer of loamy sand, sandy loam, or loam. Also included were small areas of Lynchburg and Pantego soils.

Infiltration is moderate. Runoff is slow or ponded.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest. Wetness is a severe limitation, and ponding occurs frequently for brief periods. A system of surface drains or tile drains is needed where cultivated crops are grown, and both surface drains and tile drains are needed in some places. If properly drained, this soil is suited to most of the locally grown crops. Areas that are farmed are used mainly for corn, soybeans, small grain, and Ladino clover-fescue pasture. Capability unit IIIw-3; woodland suitability group 2w3.

Roanoke Series

The Roanoke series consists of poorly drained, nearly level soils on stream terraces. These soils formed in alluvial sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is dominantly dark grayish-brown silt loam about 9 inches thick. Beneath the surface layer is a gray subsoil about 33 inches thick. The upper part of the subsoil is dominantly very firm clay mottled with very dark gray and brownish yellow. The lower part is firm silty clay loam mottled with brownish yellow and dark gray. Below the subsoil and extending to a depth of about 66 inches is gray loamy fine sand and loamy sand mottled with light gray and brownish yellow. Underlying this material and extending to a depth of about 74 inches is white sand mottled with olive yellow.

Natural fertility and available water capacity are medium, and the content of organic matter is low. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is very strongly acid.

The Roanoke soils in Pitt County are of only minor importance for farming. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. The seasonal high water table, frequent flooding for brief periods, and slow permeability are major limitations to the use of these soils for farming and for other purposes. In areas that are farmed, crops respond well to recommended applications of fertilizer and lime.

Representative profile of Roanoke silt loam, 3 miles west of Grimesland on U.S. Highway No. 264, 0.4 mile north on State Road No. 1762, 30 feet east of road and 100 feet north of a wooded area:

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) silt loam; weak, medium, granular structure; very friable; many small roots; medium acid; abrupt, smooth boundary.

A2—7 to 9 inches, gray (10YR 5/1) very fine sandy loam; many, fine, distinct, brownish-yellow mottles; weak, medium, granular structure; friable; many small roots; few small root channels; very strongly acid; abrupt, smooth boundary.

B1tg—9 to 12 inches, gray (10YR 6/1) clay loam; few, fine, distinct, brownish-yellow mottles; weak, medium, subangular blocky structure; firm, sticky and plastic; few medium roots and root channels; some dark grayish-brown colors in root channels; few thin clay films on faces of peds; very strongly acid; abrupt, smooth boundary.

B21tg 12 to 26 inches, gray (10YR 6/1) clay; few, coarse, distinct, very dark gray (10YR 3/1) mottles and few, fine, distinct, brownish-yellow mottles; weak, medium, angular blocky structure; very firm, very sticky and very plastic; few medium roots and root channels; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22tg—26 to 36 inches, gray (10YR 5/1) clay; few, medium, distinct, brownish-yellow (10YR 6/6) mottles; weak, medium, angular blocky structure; very firm, very sticky and very plastic; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3tg—36 to 42 inches, gray (10YR 6/1) silty clay loam; few, fine, distinct, brownish-yellow and dark-gray mottles; weak, medium, angular blocky structure; firm, sticky and plastic; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

IIC1g—42 to 54 inches, gray (10YR 6/1) loamy fine sand; few, fine, faint, light-gray mottles; single grain; very friable; very strongly acid; gradual, wavy boundary.

IIC2g—54 to 66 inches, gray (10YR 6/1) loamy sand; few, fine, distinct, brownish-yellow mottles; single grain; very friable; very strongly acid; gradual, wavy boundary.

IIC3g—66 to 74 inches, white (N 8/0) sand; few, fine, distinct, olive-yellow mottles; single grain; loose; very strongly acid.

Thickness of the solum is 45 inches or less. Thickness of the A horizon is 5 to 20 inches. The Ap or A1 horizon is dark gray to dark grayish brown, and the A2 horizon is commonly gray. Texture of the B horizon is silty clay loam, clay loam, or clay, but it is dominantly clay. The B horizon is commonly mottled with brownish yellow, dark gray, and very dark gray. The C horizon is gray to white loamy fine sand to sand.

Roanoke silt loam (Ro).—This is a poorly drained soil on broad flats and in slight depressions. It is on stream terraces, where it occurs in areas of irregular shape. The areas range from 3 to more than 100 acres in size. Slopes are 0 to 1 percent. The surface layer is dominantly dark grayish-brown silt loam about 9 inches thick. The subsoil is gray and is about 33 inches thick. The upper part of the subsoil is dominantly very firm clay mottled with very dark gray and brownish yellow. The lower part is firm silty clay loam mottled with brownish yellow and dark gray. The underlying material is gray to white loamy fine sand to coarse sand.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of very fine sandy loam or loam. Also included were small areas of Altavista, Bibb, and Cape Fear soils.

Infiltration is moderate. Runoff is slow or ponded.

This soil is fairly easy to keep in good tilth, but it can be satisfactorily worked only within a fairly narrow range of moisture content. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Flooding frequently occurs for brief periods, and wetness is a very severe limitation. A system of surface drains is needed for most uses. If properly drained, this soil is

suited to a few of the locally grown crops. Areas that are farmed are used mainly for corn, soybeans, and pasture. Capability unit IVw–2; woodland suitability group 2w9.

Swamp

Swamp (Sw) is a poorly drained or very poorly drained miscellaneous land type on flood plains, where it occurs in slight depressions. It has slopes of less than 1 percent. The areas are commonly long and narrow, and they range from 5 to 100 acres or more in size. Flooding for long periods occurs very frequently. In fact, water covers this land type throughout most of the year. The surface layer is light-gray to black loam or sand to silty clay that is commonly high in content of organic matter. The underlying material is gray to black mixed alluvium.

This land type is not suitable for cultivated crops or pasture. All of the acreage is in baldcypress, gum, and other native hardwoods. Capability unit VIIw–1; not placed in a woodland suitability group.

Tuckerman Series

The Tuckerman series consists of poorly drained, nearly level soils on stream terraces. These soils formed in alluvial sediment. A seasonal high water table is at or near the surface.

In a typical profile, the surface layer is dark-gray and gray fine sandy loam about 17 inches thick. The subsoil is about 19 inches thick and is dominantly gray, friable sandy clay loam and fine sandy loam mottled with brownish yellow. Below the subsoil and extending to a depth of about 72 inches is gray loamy sand and coarse sand.

Natural fertility and the content of organic matter are low, and available water capacity is medium. Permeability and shrink-swell potential are moderate. In areas that have not received lime, reaction is slightly acid to medium acid.

The Tuckerman soils of Pitt County are of only minor importance for farming. The seasonal high water table and infrequent flooding for brief periods are the major limitations to their use. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. In areas that are farmed, crops respond well to recommended applications of fertilizer and lime.

Representative profile of Tuckerman fine sandy loam, 1 mile east of Greenville, 150 feet north of State Highway No. 30, and 30 feet east of a field path:

Ap—0 to 10 inches, dark-gray (10YR 4/1) fine sandy loam; weak, fine, granular structure; very friable; many small and few medium roots; slightly acid; clear, smooth boundary.

A2g—10 to 17 inches, gray (10YR 5/1) fine sandy loam; weak, fine, granular structure; very friable; few small and medium roots; medium acid; clear, wavy boundary.

B1g—17 to 20 inches, light brownish-gray (10YR 6/2) fine sandy loam; few, medium, distinct, yellow (2.5Y 7/6) mottles; weak, medium, subangular blocky structure; friable; few medium roots and root channels; medium acid; gradual, irregular boundary.

B2tg—20 to 30 inches, gray (10YR 5/1) sandy clay loam; few, fine and medium, distinct, brownish-yellow (10YR 6/6) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium root channels; few thin clay films on faces of peds; medium acid; gradual, wavy boundary.

B3tg—30 to 36 inches, gray (10YR 5/1) fine sandy loam; weak, medium, subangular blocky structure; friable; few fine fragments of quartz gravel; few fine mica flakes; medium acid; gradual, wavy boundary.

IIC1g—36 to 48 inches, gray (10YR 6/1) loamy sand; single grain; loose; few fine fragments of quartz gravel; few fine mica flakes; medium acid; gradual, wavy boundary.

IIC2g—48 to 72 inches, gray (10YR 6/1) coarse sand; single grain; loose; many fine fragments of quartz gravel; few fine mica flakes; slightly acid; gradual, wavy boundary.

Thickness of the solum is 40 inches or less. Thickness of the A horizon is 8 to 20 inches. The Ap or A1 horizon is dark gray to grayish brown, and the A2 horizon is gray to grayish brown. The B horizon is light brownish-gray to gray fine sandy loam or sandy clay loam and is 15 to 32 inches thick. A few yellow and brownish-yellow mottles are in the B horizon. The C horizon is grayish loamy sand to coarse sand. It contains few to many fine fragments of gravel.

Tuckerman fine sandy loam (Tu).—This is a poorly drained soil on broad flats and in slight depressions on stream terraces. It occurs in areas of irregular shape that are 3 to 21 acres in size. Slopes are 0 to 1 percent. The surface layer is dark-gray and gray fine sandy loam about 17 inches thick. The subsoil is about 19 inches thick and is dominantly gray, friable sandy clay loam and fine sandy loam mottled with brownish yellow.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of sandy loam or loamy fine sand. Also included were small areas of Altavista, Portsmouth, Olustee, and Osier soils.

Infiltration is moderate. Runoff is slow or ponded.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a fairly wide range of moisture content. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Wetness is a very severe limitation, and infrequent flooding occurs for brief periods. For most uses a system of surface drains or tile drains is needed, and both surface drains and tile drains are needed in some places. If properly drained, this soil is fairly well suited to a few of the locally grown crops. Areas that are farmed are used mainly for corn, soybeans, small grain, and pasture. Capability unit IVw–4; woodland suitability group 2w9.

Wagram Series

The Wagram series consists of well-drained, nearly level to sloping soils on uplands and stream terraces. These soils formed in Coastal Plain and alluvial sediment. A seasonal high water table is below a depth of 5 feet.

In a typical profile, the surface layer is loamy sand about 25 inches thick. It is grayish brown in the upper part and is light yellowish brown in the lower part. The subsoil is about 41 inches thick and is friable sandy clay loam. The upper part of the subsoil is dominantly brownish yellow. The lower part is olive yellow mottled with yellowish red, gray, and red. Below the subsoil and extending to a depth of about 84 inches is mottled light yellowish-brown, olive-yellow, and gray loamy sand.

Natural fertility and the content of organic matter are low or very low, and available water capacity is low. Permeability is moderately rapid, and shrink-swell potential

is low. In areas that have not received lime, reaction is strongly acid to extremely acid.

The Wagram soils in Pitt County are important for farming. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Droughtiness and slope are major limitations to use of these soils. Soil blowing is also a hazard, and plant nutrients are readily lost as the result of leaching. In cultivated areas crops respond well to recommended applications of fertilizer and lime.

Representative profile of Wagram loamy sand, 0 to 6 percent slopes, 2 miles west of Fountain on State Highway No. 222, one-half mile east of State Road No. 1232, and 30 feet south of a field path:

Ap—0 to 9 inches, grayish-brown (10YR 5/2) loamy sand; weak, fine, granular structure; very friable; many small roots; medium acid; abrupt, smooth boundary.

A2—9 to 25 inches, light yellowish-brown (2.5Y 6/4) loamy sand; weak, medium, granular structure; very friable; few small and medium roots; few medium root channels; strongly acid; abrupt, smooth boundary.

B1t—25 to 28 inches, olive-yellow (2.5Y 6/8) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few small and medium roots; few medium root channels; few thin clay films on faces of peds; very strongly acid; abrupt, smooth boundary.

B21t—28 to 50 inches, brownish-yellow (10YR 6/6) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B22t—50 to 55 inches, olive-yellow (2.5Y 6/8) sandy clay loam; few, medium, distinct, yellowish-red (5YR 5/8) and gray (10YR 6/1) mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

B3t—55 to 66 inches, olive-yellow (2.5Y 6/8) sandy clay loam; many, medium, prominent, red (2.5YR 5/8) and many, fine, distinct, gray mottles; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; thin, patchy clay films on faces of peds; very strongly acid; gradual, wavy boundary.

C—66 to 84 inches, mottled light yellowish-brown (2.5Y 6/4), olive-yellow (2.5Y 6/8), and gray (10YR 6/1) loamy sand; many lenses of sandy clay loam; massive; friable; extremely acid.

The solum is more than 60 inches thick. The A horizon is 20 to 40 inches thick. The Ap or A1 horizon is gray to grayish brown, and the A2 horizon is light yellowish brown to very pale brown. The B horizon is olive-yellow to brownish-yellow sandy clay loam to sandy loam, but it is dominantly sandy clay loam to a depth of more than 60 inches. The C horizon is commonly mottled light yellowish brown, olive yellow, and gray. It ranges from sand to clay in texture.

Wagram loamy sand, 0 to 6 percent slopes (WaB).—This is a well-drained soil on slightly convex, smooth, broad divides on uplands and stream terraces. It occurs in areas of irregular shape that are 4 to 20 acres in size. The profile is the one described as representative of the Wagram series. The surface layer is loamy sand about 25 inches thick. It is grayish brown in the upper part and is light yellowish brown in the lower part. The subsoil is about 41 inches thick and is friable sandy clay loam. The upper part of the subsoil is dominantly brownish yellow. The lower part is olive yellow mottled with yellowish red, gray, and red.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sand, sand, or loamy fine sand. Also included were small areas of Alaga, Lakeland, Norfolk, Masada, Wickham, and Ocilla soils.

Infiltration is rapid. Runoff is slow.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. This soil is suited to most of the locally grown crops. Because of its thick, sandy surface layer, however, droughtiness is a moderate limitation, moderate leaching of plant nutrients takes place, and soil blowing is a moderate hazard (fig. 4). Cultivated areas are used mainly for row crops, chiefly for tobacco and peanuts. Capability unit IIs–1; woodland suitability group 3s2.

Wagram loamy sand, 6 to 10 percent slopes (WaC).—This is a well-drained soil on short side slopes of uplands and stream terraces. It occurs in long, narrow areas that are 3 to 10 acres in size. The surface layer is gray to grayish-brown loamy sand 20 to 40 inches thick. The subsoil is olive-yellow to brownish-yellow, friable sandy clay loam and sandy loam to a depth of 60 inches or more.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sand, sand, or loamy fine sand. Also included were small areas of soils that have a similar profile but that have slopes of more than 10 percent. Other inclusions consist of small areas of Alaga, Lakeland, and Norfolk soils.

Infiltration is rapid. Runoff is medium.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is in cultivated crops or pasture, and the rest is chiefly in forest. This soil is fairly well suited to most locally grown crops. Erosion is a severe hazard, however, and because of the thick, sandy surface layer, this soil also is droughty, is subject to blowing, and loses plant nutrients readily as a result of leaching. In cultivated areas intensive practices that effectively control runoff and that reduce erosion are needed. The cultivated areas are used mainly for row crops, especially for tobacco and peanuts. Capability unit IIIe–3; woodland suitability group 3s2.

Wickham Series

The Wickham series consists of well-drained, nearly level and gently sloping soils on stream terraces. These soils formed in alluvial sediment. A seasonal high water table is below a depth of 5 feet.

In a typical profile, the surface layer is dark-brown and reddish-yellow sandy loam about 11 inches thick. The subsoil is about 31 inches thick. It is reddish-yellow, friable sandy loam in the upper part and is yellowish-red, friable sandy clay loam and sandy loam in the lower part. Below the subsoil and extending to a depth of about 80 inches is reddish-yellow and yellow loamy sand and sand mottled with light gray.

Natural fertility and the content of organic matter are low, and available water capacity is medium. Permeability is moderate, and shrink-swell potential is low. In

Figure 4.—**Field of Wagram loamy sand, 0 to 6 percent slopes, used to grow tobacco. Every fifth row in this field has been seeded to a small grain to reduce soil blowing and to protect the young tobacco plants from wind and blowing sand.**

areas that have not received lime, reaction is strongly acid or very strongly acid.

The Wickham soils of Pitt County are of only minor importance for farming, but most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. Major limitations to use of these soils are slope and, in nearly level areas, infrequent flooding for brief periods. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

Representative profile of Wickham sandy loam, 0 to 6 percent slopes, 2 miles west of Belvoir, 130 feet north of State Road No. 1001, and 75 feet west of State Road No. 1408:

Ap—0 to 6 inches, dark-brown (10YR 4/3) sandy loam; weak, fine, granular structure; very friable; many small roots; medium acid; abrupt, smooth boundary.

A2—6 to 11 inches, reddish-yellow (7.5YR 6/6) sandy loam; weak, medium, granular structure; very friable; few small and medium roots; medium acid; abrupt, smooth boundary.

B1t—11 to 17 inches, reddish-yellow (5YR 6/8) sandy loam; weak, medium, subangular blocky structure; friable; few medium roots and root channels; few, thin, patchy clay films on faces of peds; strongly acid; abrupt, wavy boundary.

B2t—17 to 37 inches, yellowish-red (5YR 5/8) sandy clay loam; weak, medium, subangular blocky structure; friable, slightly sticky and slightly plastic; few medium roots and root channels; few, thin, patchy clay films on faces of peds; common fine mica flakes; very strongly acid; clear, wavy boundary.

B3t—37 to 42 inches, yellowish-red (5YR 5/8) sandy loam; weak, medium, subangular blocky structure; friable; few, thin, patchy clay films on faces of peds; few fine mica flakes; very strongly acid; clear, wavy boundary.

IIC1—42 to 52 inches, reddish-yellow (7.5YR 6/8) loamy sand; single grain; loose; few fine mica flakes; strongly acid; clear, wavy boundary.

IIC2—52 to 72 inches, yellow (10YR 7/6) sand; single grain; loose; few fine mica flakes; strongly acid; clear, wavy boundary.

IIC3—72 to 80 inches, yellow (10YR 7/6) sand; few, coarse, distinct, light-gray (10YR 7/1) mottles; single grain; loose; strongly acid.

Thickness of the solum ranges from about 40 inches to less than 60 inches. Thickness of the A horizon ranges from 5 to 20 inches. The Ap or A1 horizon is dark brown to dark gray, and the A2 horizon is reddish yellow to light brown.

The B horizon is reddish-yellow to yellowish-red sandy loam, sandy clay loam, or clay loam, and it is 30 to 37 inches thick. The C horizon is reddish-yellow, yellowish-red, or yellow loamy sand or sand, and it is commonly mottled with light gray or gray. Few to common fine mica flakes are in the B and the C horizons.

Wickham sandy loam, 0 to 6 percent slopes (WkB).—This is a well-drained soil on broad, smooth divides on stream terraces. It occurs in areas that are long and narrow or irregular in shape and that are 4 to 12 acres in size. The surface layer is dark-brown and reddish-yellow sandy loam about 11 inches thick. The subsoil is about 31 inches thick. It is reddish-yellow, friable sandy loam in the upper part and is yellowish-red, friable sandy clay loam and sandy loam in the lower part.

Included with this soil in mapping were a few areas of soils that have a similar profile but that have a surface layer of fine sandy loam, loamy fine sand, or loamy sand. Also included were small areas of Masada and Altavista soils.

Infiltration is moderate. Runoff is slow to medium.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. This soil is well suited to all the locally grown crops. Erosion is a moderate hazard in the sloping areas, however, and infrequent flooding for brief periods occurs in the nearly level areas. Practices that effectively control runoff and that reduce erosion are needed if the sloping areas are cultivated. Cultivated areas are used mainly for row crops, especially for tobacco, peanuts, and cotton. Capability unit IIe–1; woodland suitability group 2o7.

Use and Management of the Soils

This section discusses use and management of the soils for crops and pasture, as woodland, for wildlife, and for recreation and engineering purposes. It does not give detailed information about management of individual soils. For specific suggestions about management of individual soils, consult a representative of the local office of the Soil Conservation Service, the Extension Service, or the Agricultural Experiment Station.

Use of Soils for Crops and Pasture[3]

This section has three main parts. The first part discusses the capability grouping of soils in the capability classification system. The second describes the capability units in Pitt County and gives general management suggestions for the soils in each capability unit. The third gives estimated yields of specific crops grown under intensive management.

Capability grouping

Capability grouping shows, in a general way, the suitability of soils for most kinds of field crops. The soils are grouped according to their limitations when used for field crops, the risk of damage when they are so used, and the way they respond to treatment. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils; does not take into consideration possible but unlikely major reclamation projects; and does not apply to rice, cranberries, horticultural crops, or other crops requiring special management.

Those familiar with the capability classification can infer from it much about the behavior of soils when used for other purposes, but this classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for range, for forest trees, or for engineering.

In the capability system, the kinds of soils are grouped at three levels: the capability class, subclass, and unit. These are discussed in the following paragraphs.

Capability Classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use, defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants, require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife. (None in Pitt County.)

Class VI soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife. (None in Pitt County.)

Class VII soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife.

Class VIII soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife, water supply, or to esthetic purposes. (None in Pitt County).

Capability Subclasses are soil groups within one class; they are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, sandy and droughty, or stony; and *c*, used in only some parts of the United States but not in Pitt County, shows that the chief limitation is climate that is too cold or too dry.

[3] C. C. Abernathy, conservation agronomist, Soil Conservation Service, and Roy R. Beck, district conservationist, Soil Conservation Service, helped to prepare this section.

In class I there are no subclasses, because the soils of this class have few limitations. Class V can contain, at the most, only the subclasses indicated by *w*, *s*, and *c*, because the soils in class V are subject to little or no erosion, though they have other limitations that restrict their use largely to pasture, range, woodland, wildlife, or recreation.

CAPABILITY UNITS are soil groups within the subclasses. The soils in one capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity and other responses to management. Thus, the capability unit is a convenient grouping for making many statements about management of soils. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe–3, or IIIw–4. Thus, in one symbol, the Roman numeral designates the capability class, or degree of limitation; the small letter indicates the subclass, or kind of limitation, as defined in the foregoing paragraph; and the Arabic numeral specifically identifies the capability unit within each subclass.

Management by capability units

In the following pages, the capability units in Pitt County are described and suggestions for the use and management of the soils are given. The capability units are not numbered consecutively, because not all the units used in the Coastal Plain resource area of North Carolina are in this county. For the names of the soils in any given unit, refer to the "Guide to Mapping Units" at the back of this soil survey.

CAPABILITY UNIT I–1

This unit consists of well-drained, nearly level soils on uplands. These soils have a surface layer of fine sandy loam or sandy loam. Their subsoil is friable sandy loam or sandy clay loam to silty clay loam. Natural fertility and the content of organic matter are low. Available water capacity is medium to high. Permeability is moderate.

These soils are easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. They are well suited to all the locally grown crops. Most of the acreage is in cultivated crops or pasture. The rest is chiefly in forest or in housing developments or other nonfarm uses. The cultivated areas are used mainly for row crops, especially for tobacco, peanuts, and truck crops.

These soils have no serious limitations to intensive use for cultivated crops. Returning all crop residue to the soils provides regular additions of organic matter and helps to keep the soils in good tilth. Including perennial grasses in the cropping system is an effective way of reducing losses of soil and water caused by erosion. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIe–1

This unit consists of well-drained soils that are nearly level and gently sloping. These soils have a surface layer of fine sandy loam or sandy loam and a subsoil of friable sandy loam to silty clay loam. In places the plow layer is a mixture of material from the remaining original surface layer and the subsoil. In some areas the subsoil is exposed. Natural fertility and the content of organic matter are low. Available water capacity is medium to high, and permeability is moderate.

Areas of these soils that are not eroded are easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Eroded areas are rather difficult to keep in good tilth, but they can be satisfactorily worked throughout a fairly wide range of moisture content. Crusts and clods tend to form in eroded areas unless these soils are worked when the content of moisture is optimum. Even when the amount of rainfall is normal, stands of crops on the eroded soils are less uniform than those on uneroded soils. These soils are suited or well suited to all the locally grown crops. Most of the acreage is cultivated crops or pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. The cultivated areas are used mainly for row crops, chiefly for tobacco, peanuts, and truck crops.

Erosion is a moderate hazard in cultivated areas. Runoff and erosion can be reduced by properly managing all crop residue, by protecting the soil surface with close-growing crops 25 to 50 percent of the time, and by tilling on the contour. Diversions, terraces, and stripcropping are desirable where contour tillage is practiced. A cover of perennial grasses, preferably of a sod-forming type, is needed in natural draws, field borders, and other outlets used for disposing of excess surface water. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIe–2

This unit consists of moderately well drained, nearly level and gently sloping soils on uplands. These soils have a surface layer of fine sandy loam or sandy loam and a subsoil of friable sandy loam to silty clay loam. Natural fertility and the content of organic matter are low. Available water capacity is medium to high, and permeability is moderate.

These soils are easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. They are well suited to all the locally grown crops. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses. The cultivated areas are used mainly for row crops, especially for tobacco, peanuts, and truck crops.

Erosion is a moderate hazard in cultivated areas. Runoff and erosion can be reduced by returning all crop residue to the soils, by protecting the soil surface with close-growing crops 25 to 50 percent of the time, and by tilling on the contour. Diversions, terraces, and stripcropping are desirable where contour tillage is practiced. A cover of perennial grasses is needed in natural draws, field borders, and other outlets used for disposing of excess surface water. Preferably, the grasses should be of a sod-forming type. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIe–3

This unit consists of moderately well drained, nearly level and gently sloping soils on uplands. These soils

have a surface layer of fine sandy loam and a subsoil that is mainly very firm clay. In places the plow layer is a mixture of material from the remaining original surface layer and the subsoil. The subsoil is exposed in some areas. Natural fertility and available water capacity are medium, and the content of organic matter is low. Permeability is slow.

Areas of these soils that are not eroded are easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Eroded areas are difficult to keep in good tilth and can be satisfactorily worked only within a narrow range of moisture content. After hard rains, crusts and clods tend to form in the more eroded spots if the soils are worked when too wet. These soils are well suited or fairly well suited to most of the locally grown crops. Most of the acreage is cultivated or in pasture, and the rest is chiefly in forest and in housing developments or other nonfarm uses.

Erosion is a moderate hazard in cultivated areas. Runoff and erosion can be reduced and soil tilth can be improved by returning all crop residue to the soils, by protecting the soil surface with close-growing crops 35 to 50 percent of the time, and by tilling on the contour. Diversions, terraces, and stripcropping are desirable where contour tillage is practiced. Minimum tillage tends to maintain good soil structure in these soils, and it reduces losses of soil and water. A cover of perennial grasses, preferably of a sod-forming type, is needed in natural draws, field borders, and other outlets used for disposing of excess surface water. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIw–1

This unit consists of moderately well drained, nearly level soils on uplands. These soils have a surface layer of sandy loam or fine sandy loam. Their subsoil is friable sandy loam or sandy clay loam to very firm clay. Natural fertility is low to medium, and the content of organic matter is low. Available water capacity is medium to high, and permeability is moderate to slow.

These soils are easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. They are dominantly well suited to all the locally grown crops. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses.

These soils have no serious limitations to intensive use for clean-tilled crops. Wetness caused by the seasonal high water table is a moderate limitation, however, and should be considered in planning use and management of the soils. In places drainage is needed for tobacco and other crops that require a well-drained soil. If all crop residue is returned to the soils, row crops can be grown every year. Regular additions of organic matter will be provided and good soil tilth can be maintained if soil-conserving crops, preferably perennial grasses, are grown every other year or 1 year out of 3. Crops respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIw–2

This unit consists of moderately well drained or somewhat poorly drained, nearly level and gently sloping soils on uplands and stream terraces. These soils have a surface layer of sandy loam to silt loam. Their subsoil is friable sandy loam or silt loam to silty clay loam. Natural fertility and the content of organic matter are low, and available water capacity is medium to high. Permeability is moderate.

These soils are easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. If properly drained, they are suited or well suited to most locally grown crops. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses.

Wetness is a moderate limitation to use of these soils. Artificial drainage is needed for most cultivated crops. If all crop residue is properly managed, row crops can be grown every year. Regular additions of organic matter will be provided and good soil tilth can be maintained if soil-conserving crops, preferably perennial grasses, are grown every other year or 1 year out of 3. Crops grown on these soils respond well to recommended applications of lime and fertilizer.

CAPABILITY UNIT IIs–1

Only one soil, Wagram loamy sand, 0 to 6 percent slopes, is in this unit. This soil is well drained and is nearly level or gently sloping. It has a surface layer of loamy sand and a subsoil of friable sandy clay loam to sandy loam. Natural fertility and the content of organic matter are low or very low. Available water capacity is low, and permeability is moderately rapid.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is suited to most locally grown crops. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest and in housing developments or other nonfarm uses.

Droughtiness is a moderate limitation to use of this soil, and moderate leaching of plant nutrients occurs. Soil blowing is also a moderate hazard that affects use and management. In addition, crop residue and organic matter rapidly burn out of this soil. Organic matter can be provided and losses of soil and water reduced if all crop residue is returned to the soil and if the soil surface is protected with soil-conserving crops 25 to 50 percent of the time. In the gently sloping areas, tilling on the contour also helps to conserve soil and water. Field borders, diversions, and stripcropping are desirable where contour tillage is practiced. Minimum tillage is a good practice that helps to keep crop residue on or near the soil surface.

Wind stripcropping and field windbreaks are needed in large cultivated fields to control soil blowing. A cover of perennial grasses, preferably of a sod-forming type, is needed in natural draws and other outlets used for disposal of excess surface water. A liberal amount of fertilizer, added in split applications, is needed to maintain productivity of this soil. Crops respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIIe–2

The only soil in this unit is Craven fine sandy loam, 6 to 10 percent slopes. This soil is moderately well drained. It has a surface layer of fine sandy loam and a subsoil of very firm clay. Natural fertility and available water

capacity are medium, and the content of organic matter is low. Permeability is slow.

This soil is easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is fairly well suited to most locally grown crops. Most of the acreage is in forest, however, though some areas are used primarily for growing grasses and legumes for pasture or are in small grain. Because of its short slopes, this soil is generally not used for row crops.

Erosion is a severe hazard if this soil is cultivated. In cultivated areas losses of soil and water can be reduced, soil tilth improved, and a regular supply of organic matter added by returning all crop residue to this soil, by protecting the soil surface with close-growing crops 50 to 75 percent of the time, and by tilling on the contour. Stripcropping, terraces, and diversions are desirable in areas tilled on the contour. A cover of perennial grasses, preferably of a sod-forming type, is needed in natural draws, field borders, and other outlets used for disposing of excess surface water. Crops grown on this soil respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIIe-3

The only soil in this unit is Wagram loamy sand, 6 to 10 percent slopes. This is a well-drained, sloping soil on uplands and stream terraces. It has a surface layer of loamy sand and a subsoil of friable sandy clay loam to sandy loam. Natural fertility and the content of organic matter are low or very low. Available water capacity is low, and permeability is moderately rapid.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is fairly well suited to most of the locally grown crops. Most of the acreage is cultivated or in pasture, and the rest is chiefly in forest. Because of the short slopes, this soil is generally not used for row crops.

Erosion is a severe hazard in cultivated areas. Leaching of plant nutrients occurs, and droughtiness and susceptibility to soil blowing are limitations to be considered in planning use and management of this soil. Losses of soil and water can be reduced and regular additions of organic matter will be provided if soil-conserving crops are grown 50 to 75 percent of the time and if contour tillage and stripcropping are practiced. A cover of perennial grasses, preferably of a sod-forming type, is needed in natural draws, field borders, and other outlets used for the disposal of excess surface water. A liberal amount of fertilizer, added in split applications, is needed to maintain productivity of this soil. Crops respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIIw-1

This unit consists of nearly level and gently sloping soils on uplands and stream terraces. Some of these soils are moderately well drained and consist of layers of coarse sand to loamy fine sand 80 or more inches thick. Others are somewhat poorly drained and have a surface layer, 20 to 40 inches thick, that is underlain by a subsoil of friable sandy loam to sandy clay loam. Natural fertility, the content of organic matter, and available water capacity are all low or very low. Permeability is moderate to rapid.

These soils are fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. They are suited or fairly well suited to most locally grown crops. Most of the acreage is cultivated or in pasture. The rest is chiefly in forest or in housing developments or other nonfarm uses.

Wetness is a severe limitation to use of these soils. In addition, a tendency to lose plant nutrients readily and the low or very low natural fertility are limitations. Artificial drainage is needed for most crops. A drainage system is difficult to install and maintain, however, in areas where the soils are sandy to a depth of 80 inches or more. Regular additions of organic matter can be supplied by returning a large amount of crop residue to the soils. Fertilizer, especially nitrogen, should be added in split applications. Crops grown on these soils respond fairly well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIIw-2

This unit consists of poorly drained and very poorly drained, nearly level soils on uplands and stream terraces. These soils have a surface layer of fine sandy loam to silt loam. Their subsoil is firm sandy clay or clay loam to very firm silty clay or clay. Natural fertility is medium, and the content of organic matter is medium to low. Available water capacity is medium to high. Permeability is moderately slow or slow.

Most of these soils are fairly easy to keep in good tilth, but they can be satisfactorily worked only within a fairly narrow range of moisture content. Where properly drained, they are suited to a few of the locally grown crops and are used mainly for corn, soybeans, and fescue. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture.

Wetness is a severe limitation because of the seasonal high water table and the moderately slow or slow permeability. Drainage is needed for most uses. Regular additions of organic matter can be provided and soil structure improved by returning all crop residue to the soils. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIIw-3

This unit consists of poorly drained and very poorly drained, nearly level soils on uplands and stream terraces. These soils have a surface layer of fine sandy loam to loam. Their subsoil is friable sandy loam, sandy clay loam, or clay loam. Natural fertility is low, the content of organic matter is medium to low, and available water capacity is medium. Permeability is moderate.

These soils are easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. Where properly drained, they are dominantly well suited to a few locally grown crops. Most of the acreage is in forest, and the rest is chiefly cultivated or in pasture. Areas that are farmed are used mainly for corn, soybeans, and fescue.

A seasonal high water table causes wetness to be a severe limitation, and drainage is needed for most uses. All crop residue should be returned to the soils. Regular

additions of organic matter can be provided and good soil tilth can be maintained by using a cropping system that includes perennial grasses and legumes grown 25 to 50 percent of the time. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIIw–4

This unit consists of somewhat poorly drained, nearly level and gently sloping soils on uplands and stream terraces. These soils have a surface layer of fine sandy loam to loam. Their subsoil is very firm or firm clay to silty clay or sandy clay. Natural fertility is medium, and the content of organic matter is low. Available water capacity is high. Permeability is slow.

These soils are fairly easy to keep in good tilth, but they can be satisfactorily worked only within a fairly narrow range of moisture content. Where properly drained, they are fairly well suited to most locally grown crops. About half of the acreage is cultivated or in pasture, and the rest is chiefly in forest. Areas that are farmed are used mainly for corn, soybeans, and fescue.

Because of a seasonal high water table and slow permeability, wetness is a severe limitation. Drainage is needed for most uses. In most places row crops can be grown every year, but practices that help to control erosion are needed in small sloping areas. All crop residue should be returned to the soils. Regular additions of organic matter can be supplied and good soil tilth can be maintained by using a cropping system that includes grasses and legumes grown 25 to 50 percent of the time. Crops grown on these soils respond well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IIIs–1

The only soil in this unit is Alaga loamy sand, banded substratum, 0 to 6 percent slopes. This is a somewhat excessively drained, nearly level and gently sloping, sandy soil on uplands and stream terraces. It has a surface layer of loamy sand. The underlying layers are mainly very friable or loose loamy sand or loamy fine sand, but they also contain thin bands (less than one-half inch thick) of sandy loam at depths below 72 inches. The sandy layers extend to a depth of more than 80 inches. Natural fertility and the content of organic matter are very low, and available water capacity is low. Permeability is rapid.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is fairly well suited to most locally grown crops. Most of the acreage is cultivated or in pasture, and the rest is in forest and in housing developments or other nonfarm uses.

Severe limitations to use of this soil are the very low natural fertility, the very low content of organic matter, and droughtiness. In addition, plant nutrients leach out readily, soil blowing is a severe hazard, and crop residue and organic matter rapidly burn out of the soil. Soil blowing can be reduced, soil tilth can be improved, and regular additions of organic matter can be supplied by returning all crop residue to the soil. The surface layer should be protected by using a cropping system that includes soil-conserving crops, preferably perennials, grown 50 percent or more of the time. Planting row crops in sod or in crop residue helps to reduce soil blowing.

A cover of perennial grasses, preferably of a sod-forming type, is needed in all major draws and field borders used for the disposal of excess surface water. Bermudagrass, bahiagrass, and sericea lespedeza are suggested plants to use for hay or pasture. Fertilizer, especially nitrogen, should be added in split applications. Crops grown on this soil respond fairly well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IVw–1

This unit consists of poorly drained or very poorly drained, nearly level soils on uplands and stream terraces. These soils have a surface layer of loamy sand. The underlying layers are very friable or loose loamy sand to coarse sand. Total thickness of the sandy layers is 80 inches or more. Natural fertility is very low, and the content of organic matter is low to medium. Available water capacity is low. Permeability is rapid.

These soils are fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. They are fairly well suited to a few of the locally grown crops. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Areas that are farmed are used mainly for corn, soybeans, and pasture.

Because of the seasonal high water table and frequent flooding, wetness is a very severe limitation. Other limitations are the tendency of these soils to lose plant nutrients readily as the result of leaching, and the very low natural fertility. Artificial drainage is needed for most crops. A drainage system is difficult to install and maintain, however, because of the sandy texture of the soil material. Regular additions of organic matter can be supplied by returning a large amount of crop residue to the soils. Fertilizer, especially nitrogen, should be added in split applications. Crops grown on these soils respond fairly well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IVw–2

This unit consists of poorly drained or very poorly drained, nearly level soils on stream terraces. These soils have a surface layer of loam or silt loam and a subsoil of very firm clay to firm clay loam. Sandy material commonly underlies the subsoil at a depth of about 40 inches. Natural fertility and available water capacity are medium, and the content of organic matter is medium to low. Permeability is slow.

These soils are easy or fairly easy to keep in good tilth, but they can be satisfactorily worked only within a fairly narrow range of moisture content. Where properly drained, they are suited to a few of the locally grown crops. Most of the acreage is in forest, and the rest is chiefly cultivated or in pasture. Areas that are farmed are used mainly for corn, soybeans, and pasture.

Wetness is a very severe limitation. The seasonal high water table, lack of suitable outlets for drainage, and frequent flooding are all to be considered in planning use and management. Soil structure and tilth can be improved by returning all crop residue to the soils. Where crops are grown, response is good to recommended applications of fertilizer and lime.

CAPABILITY UNIT IVw–4

This unit consists of poorly drained, nearly level soils on uplands and stream terraces. These soils have a surface layer of fine sandy loam and a subsoil or underlying layers of very friable sandy loam to friable sandy clay loam. Below a depth of about 36 inches, the soil material is commonly sandy. Natural fertility and the content of organic matter are low. Available water capacity is medium. Permeability is moderate.

These soils are easy to keep in good tilth and can be satisfactorily worked throughout a fairly wide range of moisture content. Artificial drainage is necessary for cultivated crops, hay, or pasture. Where properly drained, however, these soils are fairly well suited to a few of the locally grown crops. Most of the acreage is in forest, and the rest is chiefly in cultivated crops or pasture. Areas that are farmed are used mainly for corn, soybeans, and pasture.

Because of the seasonal high water table, wetness is a severe limitation. These soils are also subject to flooding and lack suitable outlets for removing excess surface water. In cultivated areas regular additions of organic matter can be supplied and soil structure and tilth can be improved by properly managing all crop residue. Crops grown on these soils respond fairly well to recommended applications of fertilizer and lime.

CAPABILITY UNIT IVs–1

The only soil in this unit is Lakeland sand, 0 to 6 percent slopes. This is an excessively drained, nearly level and gently sloping, sandy soil on uplands and stream terraces. The surface layer is sand, and the underlying layers are loose fine sand to coarse sand. Total thickness of the sandy layers is more than 80 inches. Natural fertility, the content of organic matter, and available water capacity are all very low. Permeability is rapid.

This soil is fairly easy to keep in good tilth and can be satisfactorily worked throughout a wide range of moisture content. It is fairly well suited to a few of the locally grown crops, but the crops are likely to be severely damaged by lack of moisture during long dry periods. About half of the acreage is cultivated or in pasture. The rest is in forest and in housing developments or other nonfarm uses.

Very low available water capacity, droughtiness, very low content of organic matter, and very low natural fertility are all very severe limitations In addition, this soil loses plant nutrients readily as the result of leaching, and it is subject to soil blowing. Organic matter can be added and the leaching of plant nutrients can be slowed by properly managing all crop residue. The surface layer should be protected with a cover of close-growing crops 50 percent or more of the time. A desirable cropping system is one that adds a large amount of durable residue to the soil. A liberal amount of fertilizer, added in split applications, is necesary to maintain productivity. In areas used for crops, response is rather poor to recommended applications of fertilizer and lime.

CAPABILITY UNIT VIIw–1

Only the mapping unit Swamp is in this unit. It is poorly drained or very poorly drained and is on flood plains. This land type consists of soil material that is variable in texture, color, and consistence. Water stands on the surface much of the time.

Because of the very severe limitation of wetness, the very frequent flooding and ponding, and the difficulty and impracticability of providing drainage, this mapping unit is not suitable for cultivated crops. It is suitable for growing forest trees and for wildlife habitat. All of the acreage is in blackgum, tupelo, sweetgum, cypress, and other native hardwoods.

Estimated yields

Table 2 gives estimates of yields of the principal crops grown in Pitt County. The yields depend upon a combination of soil and climate, on the kind of crop that is grown, and on the level of management. The estimates in table 2 are those that can be expected under intensive management. Yields are substantially lower under less intensive management.

The estimates given in table 2 were made by technicians who have had considerable experience in managing crops and soils in this county. They are also based on the assumption that the average amount of rainfall will be received over a long period of time, that adequate drainage will be provided, that no supplemental irrigation will be used, and that no flooding or ponding will take place. Following are practices generally considered necessary to obtain the yields given in table 2:

1. Fertilizer and lime are applied according to the needs indicated by soil tests.
2. High-yielding varieties of crops are grown.
3. Legumes are inoculated.
4. The soils are properly tilled, and the crops are properly cultivated.
5. Weeds, insects, and diseases are controlled.
6. Rotations that conserve moisture and that protect the soils from erosion are used.
7. Runoff is adequately controlled.
8. Overgrazing is avoided, and pastures are well managed.

Woodland Uses of the Soils [4]

This section contains a brief description of the forests of Pitt County and provides information concerning the relationship between soils and trees. To make the soil survey more useful to landowners and managers who develop and harvest woodland resources, interpretations are given for use of the soils as woodland.

Woodland resources

All of the area that is now Pitt County was originally in forest that consisted of many kinds of needle-leaved and broad-leaved trees. On the better drained, nearly level or undulating soils of interstream uplands, the trees were mainly longleaf, loblolly, and some shortleaf pines; white, southern red, black, and post oaks; and hickory, yellow-poplar, sweetgum, sourwood, dogwood, and American holly. On the more poorly drained soils of the uplands, the trees were mainly sweetgum and blackgum; white, water, and willow oaks; and yellow-poplar,

[4] By JOHN E. WIGGINS, JR., forester, Soil Conservation Service.

red maple, holly, and some pines. On the very poorly drained soils of Grindle Pocosin and other flat or depressed areas of the uplands, pond and loblolly pines and swamp tupelo, cypress, red maple, sweetgum, sweetbay, and red bay competed with a rank growth of swamp ironwood (titi), zenobia, fetterbush, and switchcane.

The principal kinds of trees growing on the deep sands and loamy sands that occur in rather large areas were longleaf pine and an understory of blackjack and other scrub oaks. Yellow-poplar and sycamore; water, willow, white, and swamp chestnut oaks; and cottonwood, ash, elm, persimmon, and river birch grew on the better drained soils of the flood plains along the Tar River and other major streams. Trees growing in swamps and along creeks were mainly baldcypress, water tupelo, swamp tupelo, Carolina (water) ash, and red maple.

Commercial forests now occupy 216,400 acres (*10*), or about 51.5 percent of the land area of Pitt County. They are among the most valuable of the natural resources. About 99.3 percent of the land in forest is privately owned, mostly by farmers. Much of this land is in tracts of less than 100 acres.

TABLE 2.—*Estimated average acre yields of crops under intensive management*

[Absence of yield means that the crop is not commonly grown on the soil or that yield estimates are not available]

	Cotton	Corn	Tobacco, flue cured	Soybeans	Wheat	Peanuts	Cucumbers	Coastal bermuda hay	Pasture	
									Coastal bermuda	Ladino clover
	Lb.	*Bu.*	*Lb.*	*Bu.*	*Bu.*	*Lb.*	*Bu.*	*Tons*	*A.U.D.*[1]	*A.U.D.*[1]
Alaga loamy sand, banded substratum, 0 to 6 percent slopes	275	80	2,000	35		1,600		3.8	270	
Altavista sandy loam, 0 to 4 percent slopes	650	120	2,600	45	60	3,300	300	5.2	370	205
Aycock fine sandy loam, 0 to 1 percent slopes	825	125	3,000	50	65	3,500	400	5.8	420	245
Aycock fine sandy loam, 1 to 6 percent slopes	775	120	2,900	45	60	3,300	380	5.6	410	240
Aycock fine sandy loam, 1 to 6 percent slopes, eroded	725	115	2,200	40	55	3,000	350	5.4	400	235
Bibb complex		80		35						250
Bladen fine sandy loam		115		45						270
Byars loam		125		45						285
Cape Fear loam		115		45						270
Chipley sand	325	65		25				3.0	270	
Coxville fine sandy loam	400	125	2,000	45	45	2,000				280
Craven fine sandy loam, 0 to 1 percent slopes	600	115	2,700	45	55	3,000	310	5.0	360	265
Craven fine sandy loam, 1 to 6 percent slopes	500	110	2,500	40	50	2,900	260	5.4	400	255
Craven fine sandy loam, 1 to 6 percent slopes, eroded	400	85	2,100	35	45	2,300	215	4.6	330	210
Craven fine sandy loam, 6 to 10 percent slopes								4.0	290	220
Exum fine sandy loam, 0 to 1 percent slopes	775	125	2,800	50	60	3,300	350	5.3	380	260
Exum fine sandy loam, 1 to 6 percent slopes	725	115	2,600	45	55	3,000	320	5.1	370	215
Goldsboro sandy loam, 0 to 1 percent slopes	650	125	3,000	50	65	3,600	280	5.3	380	220
Goldsboro sandy loam, 1 to 6 percent slopes	650	120	3,000	45	60	3,600	280	5.3	380	210
Lakeland sand, 0 to 6 percent slopes	225	55	1,900			1,400		3.0	220	
Leaf silt loam		95		40						260
Lenoir fine sandy loam, thin solum variant, 0 to 3 percent slopes	425	110	2,400	45	55	2,800	250			280
Lenoir loam, 0 to 1 percent slopes	425	115	2,400	50	55	2,800	250	2.8	200	280
Lynchburg fine sandy loam	650	130	2,600	50	60	3,000	325	5.0	360	290
Masada sandy loam, 0 to 4 percent slopes	575	110	2,600	40	55	3,000	200	4.0	290	180
Nahunta silt loam	425	120	2,600	50	60	2,800	245	4.0	290	270
Norfolk sandy loam, 0 to 1 percent slopes	650	125	3,000	50	60	3,800	240	5.4	390	200
Norfolk sandy loam, 1 to 6 percent slopes	625	115	2,800	45	55	3,700	200	5.2	370	190
Norfolk sandy loam, 1 to 6 percent slopes, eroded	575	100	2,400	40	50	3,300	180	5.0	360	180
Ocilla loamy fine sand, 0 to 4 percent slopes	600	115	2,500	45	50	3,200	275	5.0	360	250
Olustee loamy sand, sandy subsoil variant		75		30						180
Osier loamy sand, loamy substratum		75		30						180
Pactolus loamy sand	375	95	2,400	35		2,600		3.4	250	290
Pantego loam		130		50						290
Portsmouth loam		105		40						280
Rains fine sandy loam	500	130	2,000	50	55					290
Roanoke silt loam		90		35						270
Swamp										
Tuckerman fine sandy loam		90		45						290
Wagram loamy sand, 0 to 6 percent slopes	510	90	2,400	35	45	3,000			340	
Wagram loamy sand, 6 to 10 percent slopes	465		2,200	30	40	2,700			300	
Wickham sandy loam, 0 to 6 percent slopes	575	110	2,600	40	55	2,800	225		320	180

[1] Animal-unit-days is a term used to express the carrying capacity of pasture. It is the number of animal units carried per acre multiplied by the number of days the pasture is grazed during a single grazing season without damage to the sod. An acre of pasture that provides 30 days of grazing for two cows has a carrying capacity of 60 animal-unit-days. An animal unit is one cow, steer, or horse; five hogs; or seven sheep or goats.

Rating soils for woodland use

All the soils of Pitt County except Swamp have been rated on the basis of their capability and suitability for producing wood crops. The ratings are based on measurements by foresters and soil scientists, on results of pertinent research, and on the experience of foresters and managers of wooded areas. These ratings are a means of expressing information useful in managing soils for woodland purposes. Soil-related elements of tree growth and management that are important in Pitt County are discussed in the following paragraphs.

Potential productivity of the soils is determined by site index for a given species of tree. The site index is the average of the measured total height, in feet, of the dominant and codominant trees in an even-aged stand when the trees attain the age of 50 years. By using published results of researsh, site index can be converted to expected yields (*4*, *7*). In table 3 potential productivity is expressed by site class, which values were obtained by rounding the site index for each species of tree to the nearest 10-foot interval. Site class for some broad-leaved trees was determined through comparison with similar trees growing on the same kind of soil.

TABLE 3.—*Potential productivity, preferred species of trees, and hazards to management, by woodland suitability groups of soils*

Woodland suitability group, soil series, and map symbols	Description of soils in group	Potential productivity		Tree species preferred for management and planting	Erosion hazard	Equipment restrictions	Seedling mortality
		Tree species	Site class				
Group 1w9:[1] Pantego: Pg. Portsmouth: Po.	Very poorly drained, nearly level soils that have a friable, loamy subsoil; on uplands and stream terraces; subject to frequent flooding or ponding; very high potential productivity.	Loblolly pine Slash pine Sweetgum Yellow-poplar Water oak Willow oak Cottonwood	100 100 100 110 90–100 100 100	*Broad-leaved:* sweetgum; yellow-poplar; green ash; Shumard, cherrybark, willow, and water oaks; sycamore; swamp and water tupelos. *Needle-leaved:* loblolly, slash, pond, and longleaf pines; baldcypress.	Slight	Severe[2]	Severe.[2]
Group 2o1: Aycock: AyA, AyB, AyB2. Norfolk: NrA, NrB, NrB2.	Well-drained, nearly level or gently sloping soils that have a friable, loamy subsoil; on uplands; high potential productivity.	Loblolly pine Slash pine Longleaf pine Southern red oak.	90 90 70 80	*Broad-leaved:* soils not suitable. *Needle-leaved:* loblolly, slash, and longleaf pines.	Slight	Slight	Slight.
Group 2o7: Wickham: WkB	Well-drained, nearly level or gently sloping soil that has a friable, loamy subsoil; on stream terraces; subject to infrequent flooding; high potential productivity.	Loblolly pine Slash pine Yellow-poplar	90 90 100	*Broad-leaved:* yellow-poplar, black walnut, cherrybark oak, white ash. *Needle-leaved:* loblolly and slash pines.	Slight	Slight	Slight.
Group 2w2: Chipley: Ch	Moderately well drained, nearly level or gently sloping soil that has layers of loose sand more than 80 inches thick; on uplands and stream terraces; subject to infrequent flooding; high potential productivity.	Loblolly pine Slash pine Longleaf pine	90 90 70	*Broad-leaved:* soil not suitable. *Needle-leaved:* loblolly, slash, and longleaf pines.	Slight	Moderate	Moderate.

See footnotes at end of table.

TABLE 3.—*Potential productivity, preferred species of trees, and hazards to management, by woodland suitability groups of soils.*—Continued

Woodland suitability group, soil series, and map symbols	Description of soils in group	Potential productivity		Tree species preferred for management and planting	Erosion hazard	Equipment restrictions	Seedling mortality
		Tree species	Site class				
Group 2w3: Rains: Ra	Poorly drained, nearly level soil that has a friable, loamy subsoil; on uplands; subject to frequent ponding; high potential productivity.	Loblolly pine Slash pine Pond pine Sweetgum	90 90 70 90	*Broad-leaved:* soil not suitable. *Needle-leaved:* loblolly and slash pines.	Slight	Severe [2]	Severe.[2]
Group 2w8: Altavista: AlB. Exum: ExA, ExB Goldsboro: GoA, GoB. Lenoir: LoA. Lenoir, thin solum variant: LnA. Lynchburg: Ly. Nahunta: Na.	Moderately well drained and somewhat poorly drained, nearly level or gently sloping soils that have a friable to very firm subsoil; on uplands and stream terraces; subject to infrequent flooding; high potential productivity.	Loblolly pine Slash pine Longleaf pine Sweetgum Yellow-poplar Water oak	90 90 70 90 100 90	*Broad-leaved:* sweetgum; yellow-poplar; green ash; water, willow, white, swamp chestnut, cherrybark, and Shumard oaks; sycamore. *Needle-leaved:* loblolly, slash, and longleaf pines.	Slight	Moderate	Slight to moderate.
Group 2w9: [1] Bibb: Bb. Bladen: Bd. Byars: By. Cape Fear: Ca. Coxville: Co. Leaf: Le. Roanoke: Ro. Tuckerman: Tu.	Poorly drained and very poorly drained, nearly level soils that have a very friable to very firm, loamy to clayey subsoil; on uplands, flood plains, and stream terraces; subject to frequent or very frequent ponding and flooding; high potential productivity.	Loblolly pine Slash pine Longleaf pine Sweetgum	90 90 70 90	*Broad-leaved:* sweetgum; yellow-poplar; cottonwood; willow, water, Shumard, swamp chestnut, and cherrybark oaks; green ash; sycamore; water and swamp tupelos. *Needle-leaved:* loblolly, slash, and longleaf pines; baldcypress.	Slight	Severe [2]	Severe [2].
Group 3o7: Masada: MaB.	Well-drained, nearly level or gently sloping soil that has a friable, loamy subsoil; on stream terraces; moderately high potential productivity.	Loblolly pine Slash pine Sweetgum Southern red oak. White oak Yellow-poplar	80 80 80 70–80 70 90	*Broad-leaved:* black walnut; sweetgum; yellow-poplar; white, cherrybark, and Shumard oaks. *Needle-leaved:* loblolly, slash, and longleaf pines.	Slight	Slight	Slight.
Group 3s2: Alaga: AgB. Wagram: WaB, WaC.	Somewhat excessively drained and well-drained, nearly level or sloping soils that have a loose to friable, sandy or loamy subsoil; on uplands and stream terraces; moderately high productivity.	Loblolly pine Slash pine Longleaf pine	80 80 60–70	*Broad-leaved:* soils not suitable. *Needle-leaved:* slash, loblolly, and longleaf pines.	Slight	Slight to moderate.	Slight to moderate.

See footnotes at end of table.

TABLE 3.—*Potential productivity, preferred species of trees, and hazards to management, by woodland suitability groups of soils.*—Continued

Woodland suitability group, soil series, and map symbols	Description of soils in group	Potential productivity		Tree species preferred for management and planting	Erosion hazard	Equipment restrictions	Seedling mortality
		Tree species	Site class				
Group 3w2: Craven: CrA, CrB, CrB2, CrC. Ocilla: OcB. Olustee: Oe. Pactolus: Pa.	Moderately well drained to very poorly drained, nearly level to sloping soils that have a loose to very firm, sandy to clayey subsoil; on uplands and stream terraces; moderately high potential productivity.	Loblolly pine Slash pine Longleaf pine	80 80 70	*Broad-leaved:* soil not suitable. *Needle-leaved:* loblolly, slash, and longleaf pines.	Slight	Moderate	Slight to moderate.
Group 3w3: Osier: Os	Poorly drained, nearly level soil that has very friable or loose, sandy layers more than 80 inches thick; on uplands and stream terraces; subject to frequent flooding; moderately high potential productivity.	Loblolly pine Slash pine Longleaf pine	80 80 70	*Broad-leaved:* soil not suitable. *Needle-leaved:* slash and loblolly pines.	Slight	Severe [2]	Severe.[2]
Group 4s2: Lakeland: LaB.	Excessively drained, nearly level or gently sloping soil that has loose, sandy layers more than 80 inches thick; on uplands and stream terraces; moderate potential productivity.	Slash pine Longleaf pine Loblolly pine	70 60 70	*Broad-leaved:* soil not suitable. *Needle-leaved:* slash and longleaf pines.	Slight	Moderate	Moderate.

[1] Potential productivity can be attained only where soils have adequate surface drainage. Tree planting is generally not feasible where soils are ponded.

[2] The degree of hazard is reduced to moderate in areas that have adequate surface drainage.

In table 3 preferred species of trees are shown by listing the names of the principal commercial species of trees that should be favored in existing stands and those that are suitable for planting. The preferred species of trees were selected on the basis of their rate of growth and on the quality, value, and general marketability of the products obtained from them.

Ratings are also given in table 3 for the hazard of erosion, equipment restrictions, and seedling mortality. Windthrow is not generally considered a hazard in Pitt County, except when the velocity of the wind is abnormally high, as during a hurricane.

The hazard of erosion is rated as *slight*, *moderate*, or *severe*. The ratings are based on the erodibility and thickness of the particular soil and on steepness of the slope.

Equipment restrictions are determined on the basis of physical characteristics of the soils and on topographic features that restrict or prohibit the use of equipment commonly used in constructing access roads, harvesting forest products, controlling undesirable vegetation and fire, or other operations required for managing wooded areas. Excess water, a high content of clay in the upper part of the soil profile, and coarse texture of the surface layer are the chief factors that restrict use of equipment needed for managing wooded areas in Pitt County. Ratings for equipment restrictions have the following meanings:

A rating of *slight* means that conventional equipment may be used at any time during the year, except for short periods of heavy rainfall; drainage is moderate to excessive; the soils are not subject to flooding or excessive ponding; and slopes are less than 15 percent. A rating of *moderate* means that conventional equipment can be used from March to December; occasional flooding may occur; the water level is generally below the surface or is seldom above the surface for extended periods; and slopes are less than 25 percent. A rating of *severe* means that conventional equipment can be used only during the driest months or between periods of flooding, or that slopes exceed 25 percent.

Seedling mortality refers to the expected degree of

loss of tree seedlings of preferred species established by planting, direct seeding, or natural seeding, as a result of unfavorable soil characteristics or topographic features. The evaluation of seedling mortality is based on the assumption that plant competition is not a limiting factor; that healthy seedlings of a suitable grade have been properly planted; that an adequate source of seed is available where natural seeding is expected; and that planted or natural seedlings have a normal environment. The rating is *slight* if seedling mortality does not exceed 25 percent. A rating of *moderate* indicates that losses of seedlings will be between 25 and 50 percent. A rating of *severe* means that more than 50 percent of the seedlings are likely to die.

Woodland suitability grouping of soils

Rating individual soils according to their potential productivity, the preferred species of trees, and the hazards or other factors that affect management, provides a basis for grouping soils according to their suitability for woodland use and management. A woodland suitability group consists of soils that have comparable potential productivity and similar limitations. that are used to produce similar wood crops, and that require about the same kind of management. Table 3 provides a description of soils in each woodland suitability group and gives information about potential productivity, species of trees preferred for management and for planting, and hazards and other factors that affect management.

Symbols consisting of three elements identify each woodland suitability group. The first element in the symbol is an Arabic numeral that refers to the relative productive potential of soils in the group. It expresses site quality based on one or more commercially important species of forest trees. The numeral 1 indicates that the soil has a very high potential productivity; 2 indicates that the soil has high potential productivity; 3, that the soil has moderately high potential productivity; 4, that the soil has moderate potential productivity; and 5, that the soil has low potential productivity.

The second element in the symbol is a lowercase letter that indicates the soil property or physiographic characteristic that is the primary cause of hazards, limitations, or restrictions of the soils for woodland use and management. The letter "w" indicates excessive soil wetness. Soils that have this designation are those in which excess water, either seasonal or year long, causes the significant limitations for woodland use (fig. 5). Such

Figure 5.—**Area of Bibb complex that is subject to very frequent flooding. Most areas of this soil complex are wooded.**

soils have restricted drainage, have a seasonal high water table, or are subject to flooding; and the excess water adversely affects the development of the stand, or it adversely affects management.

The letter "c" indicates that management restrictions or limitations are caused primarily by the kind or amount of clay in the upper part of the soil profile. The letter "s" indicates that management restrictions are caused primarily by sandy material in the soil profile. Soils that have this designation have little or no textural B horizon, have low available water capacity, and generally are low in available plant nutrients. The high content of sand may also impose restrictions on the use of equipment. The letter "o" indicates that there are no significant soil-related problems.

Some soils have more than one limiting characteristic. For those soils, priority was assigned in the order that the foregoing characteristics are described.

The third element in the symbol is an Arabic numeral that indicates the degree of hazards or limitations and the general suitability of the soils for certain kinds of trees. The numeral 1 indicates that the soils have no significant management limitations and that they are better suited to needle-leaved trees than to broad-leaved trees. The numeral 2 indicates that the soils have slight or moderate limitations and that they are better suited to needle-leaved trees than to broad-leaved trees. The numeral 3 indicates that the soils have moderate or severe limitations and that they are better suited to needle-leaved trees than to broad-leaved trees. The numeral 7 indicates that the soils have no significant limitations or restrictions that affect management and that they are well suited to either needle-leaved or broad-leaved trees. The numeral 8 indicates that the soils have slight or moderate limitations that affect management and that they are well suited to either needle-leaved or broad-leaved trees (fig. 6). The numeral 9 indicates that the soils have moderate or severe limitations and that they are suitable for either needle-leaved or broad-leaved trees.

The woodland suitability group for each soil mapping unit can be determined by referring to the "Guide to Mapping Units" at the end of this survey.

Figure 6.—Area of Goldsboro sandy loam, 0 to 1 percent slopes, that was reforested through natural seeding after the site was prepared by disking.

Use of Soils for Wildlife [5]

The kinds and abundance of wildlife are indirectly related to the kinds of soil. This relationship is twofold. It depends (1) on the capability of soils to produce food and cover for wildlife, and (2) on the suitability of soils for structural measures that are needed to create, improve, or preserve wildlife habitat. Each species of wildlife is related to the availability of its choice foods, and each plant, in turn, is directly related to the kind of soil. The soil interpretations for wildlife, shown in table 4, were prepared through knowledge of this interrelationship.

The soils of Pitt County support many different kinds of plants that provide food, cover, and protection for many species of wildlife. Upland game—squirrel, dove, rabbit, and quail—are abundant. Raccoon, otter, muskrat, and mink inhabit areas along watercourses throughout the county. Deer, bear, and turkey inhabit some parts of county, but their population is not large. In winter mallards, wood ducks, and black ducks are numerous along the Tar River and its tributaries. In spring and early in summer, these streams and the adjacent wetlands provide important nesting and brood areas for wood duck.

Table 4 rates the suitability of each soil mapped in Pitt County for seven elements of wildlife habitat and for three kinds of wildlife. In preparing the ratings, criteria were used that are applicable to each habitat element. The ratings indicate the soils suitable for producing habitat composed of plants, structures, or both. The soils have been rated by using the terms "good," "fair," "poor," and "unsuited."

Good means that wildlife habitat is easily created, improved, or maintained. There are few or no soil limitations to management of the habitat, and satisfactory results are assured.

Fair means that wildlife habitat generally can be created, improved, or maintained. Soil limitations affecting management of the habitat are moderate. Moderate intensity of management and fairly frequent attention may be required to assure satisfactory results.

Poor means that wildlife habitat generally can be created, improved, or maintained. Soil limitations that affect management of the habitat are rather severe. Management of the habitat may be difficult and expensive, and it may require intensive effort. Results are uncertain.

Unsuited means that wildlife habitat cannot be created, improved, or maintained or that the creation, improvement, or maintenance of a wildlife habitat is impractical under prevailing soil conditions. Unsatisfactory results are probable.

In making the ratings, texture of the surface layer, wetness, available water capacity, permeability, flood hazard, and slope were considered. The ratings are intended to be used only as a guideline. They do not provide specific onsite analysis. As an example, a soil rated as *good* for grasses and legumes may be *unsuited* to use for some species of grasses and legumes, although most species normally grown in the county could be expected to do well. Under a superior level of management, most soils are well suited to all the different kinds of wildlife, except waterfowl. Further onsite investigation and planning will be required to determine the species of plants and the kinds of wildlife for which an individual management plan can be developed.

Habitat elements

The seven elements of habitat are described in the following paragraphs.

Grasses and legumes.—These are domestic grasses and legumes that are established by planting and that furnish food and cover for wildlife. Examples are fescue, clover, shrub lespedeza, annual lespedeza, ryegrass, lovegrass, and panicgrass.

Grain and seed crops.—These are primarily seed-producing crops that provide food for wildlife. Examples are corn, dove proso millet, browntop millet, wheat, and oats.

Wild herbaceous plants.—These are perennial plants that furnish food and cover to species of game birds and animals. Ratings reflect the suitability of the soil to support these plants under natural conditions where little or no management is practiced. Examples are pokeweed, tickclover, ragweed, wild strawberry, and other native or introduced perennial plants.

Wetland food and cover plants.—In this group are wild herbaceous plants primarily associated with wetland. Examples are rush, sedge, smartweed, cattail, aneilema, and wild millet. Ratings reflect the suitability of the soil to support these plants under natural conditions.

Hardwood trees and shrubs.—These are nonconiferous trees, shrubs, and vines that produce fruit, buds, nuts, and foilage used extensively by wildlife for both food and cover. Examples are oak, hickory, grape, autumn-olive, pyracantha, dogwood, yellow-poplar, and multiflora rose. Ratings do not include management, though management may be needed and applied.

Low-growing coniferous woody plants.—These are mainly pines, which are mostly important to wildlife as cover, although the seeds of pines are used as food to some extent. The ratings reflect the suitability of the soil to support these plants under natural conditions.

Shallow water developments.—These are impoundments, excavations, or water controls. Ratings reflect the suitability of the soil for development of shallow ponds or flooded areas. In most places a great deal of management will be required to create or improve this habitat element.

Classes of wildlife

The three classes of wildlife listed in table 4 are defined in the following paragraphs.

Openland wildlife.—These are birds and mammals that generally occupy the edges of open areas. Mourning dove, quail, red fox, cottontail rabbit, woodchuck, and many species of songbirds are typical examples of this kind of wildlife. Openland is also important to woodland wildlife, and this interrelationship must be considered when planning wildlife management.

Woodland wildlife.—This class of wildlife consists of birds and mammals that normally inhabit wooded areas. Examples are deer, bear, marsh rabbit, bobcat, and squirrel.

[5] By JOHN P. EDWARDS, biologist, Soil Conservation Service.

TABLE 4.—*Suitability of soils for elements*

[Soils rated *good* are well suited or above average; *fair*, suited or average;

Soil series and map symbols	Elements of wildlife habitat			
	Grasses and legumes	Grain and seed crops	Wild herbaceous plants	Wetland food and cover plants
Alaga: AgB	Fair	Fair	Fair	Unsuited
Altavista: AlB	Good	Good	Good	Unsuited
Aycock:				
AyA	Good	Good	Good	Unsuited
AyB, AyB2	Good	Good	Good	Unsuited
Bibb: Bb [2]	Poor	Unsuited	Poor	Good
Bladen: Bd	Fair	Poor	Fair	Good
Byars: By [2]	Poor	Unsuited	Poor	Good
Cape Fear: Ca [2]	Poor	Unsuited	Poor	Good
Chipley: Ch	Fair	Fair	Fair	Unsuited
Coxville: Co	Fair	Poor	Fair	Good
Craven:				
CrA	Good	Good	Good	Poor
CrB, CrB2	Good	Good	Good	Unsuited
CrC	Good	Fair	Good	Unsuited
Exum:				
ExA	Good	Good	Good	Poor
ExB	Good	Good	Good	Unsuited
Goldsboro:				
GoA	Good	Good	Good	Poor
GoB	Good	Good	Good	Unsuited
Lakeland: LaB	Poor	Poor	Poor	Unsuited
Leaf: Le [2]	Fair	Poor	Fair	Good
Lenoir, thin solum variant: LnA	Fair	Fair	Good	Fair
Lenoir: LoA	Fair	Fair	Good	Fair
Lynchburg: Ly	Fair	Fair	Good	Fair
Masada: MaB	Good	Good	Good	Unsuited
Nahunta: Na	Fair	Fair	Good	Fair
Norfolk:				
NrA	Good	Good	Good	Unsuited
NrB, NrB2	Good	Good	Good	Unsuited
Ocilla: OcB	Fair	Fair	Good	Unsuited
Olustee: Oe [4]	Poor	Unsuited	Poor	Fair
Osier: Os	Fair	Poor	Fair	Poor
Pactolus: Pa	Good	Fair	Good	Unsuited
Pantego: Pg [2]	Poor	Unsuited	Poor	Good
Portsmouth: Po [2]	Poor	Unsuited	Poor	Good
Rains: Ra	Fair	Poor	Fair	Good
Roanoke: Ro	Fair	Poor	Fair	Good
Swamp: Sw	Unsuited	Unsuited	Unsuited	Good
Tuckerman: Tu	Fair	Poor	Fair	Good
Wagram:				
WaB	Good	Good	Good	Unsuited
WaC	Good	Fair	Good	Unsuited
Wickham: WkB	Good	Good	Good	Unsuited

[1] The rating is fair to poor where slopes are 0 to 2 percent. Onsite appraisal required.
[2] Ratings subject to revision where flooding is controlled or drainage systems have been installed or both.

of wildlife habitat and kinds of wildlife

poor, poorly suited or below average; and *unsuited*, use not feasible]

Elements of wildlife habitat—Continued			Kinds of wildlife		
Woody plants		Shallow water developments	Openland wildlife	Woodland wildlife	Wetland wildlife
Hardwood trees and shrubs	Low-growing conifers				
Poor	Fair	Unsuited	Fair	Poor	Unsuited.
Good	Poor	Unsuited [1]	Good	Good	Unsuited.[1]
Good	Poor	Fair	Good	Good	Poor.
Good	Poor	Unsuited	Good	Good	Unsuited.
Good	Good	Unsuited [3]	Poor	Good	Fair.
Good	Fair	Good	Fair	Good	Good.
Good	Good	Good	Poor	Good	Good.
Good	Good	Poor [3]	Poor	Good	Fair.
Poor	Poor	Unsuited	Fair	Poor	Unsuited.
Good	Fair	Fair	Fair	Good	Good.
Good	Poor	Good	Good	Good	Fair.
Good	Poor	Unsuited	Good	Good	Unsuited.
Good	Poor	Unsuited	Good	Good	Unsuited.
Good	Poor	Fair	Good	Good	Poor.
Good	Poor	Unsuited	Good	Good	Unsuited.
Good	Poor	Fair	Good	Good	Poor.
Good	Poor	Unsuited	Good	Good	Unsuited.
Poor	Good	Unsuited	Poor	Poor	Unsuited.
Good	Fair	Good	Fair	Good	Good.
Good	Poor	Good	Fair	Good	Good.
Good	Poor	Good	Fair	Good	Good.
Good	Poor	Fair	Fair	Good	Fair.
Good	Poor	Unsuited [1]	Good	Good	Unsuited.[1]
Good	Poor	Fair	Fair	Good	Fair.
Good	Poor	Fair	Good	Good	Poor.
Good	Poor	Unsuited	Good	Good	Unsuited.
Good	Poor	Unsuited	Fair	Good	Unsuited.
Poor	Good	Unsuited	Poor	Poor	Poor.
Poor	Fair	Unsuited	Fair	Poor	Unsuited.
Good	Poor	Unsuited	Good	Good	Unsuited.
Good	Good	Fair	Poor	Good	Good.
Good	Good	Poor [3]	Poor	Good	Fair.
Good	Fair	Fair	Fair	Good	Good.
Good	Fair	Poor [3]	Fair	Good	Fair.
Good	Poor	Unsuited	Unsuited	Good	Fair.
Good	Fair	Good	Fair	Good	Good.
Good	Poor	Unsuited	Good	Good	Unsuited.
Good	Poor	Unsuited	Good	Good	Unsuited.
Good	Poor	Unsuited [1]	Good	Good	Unsuited.[1]

[3] Flood hazard restricts use of structures.
[4] Ratings for this soil apply to areas that are very poorly drained, are subject to frequent flooding, and have rapid permeability.

Wetland wildlife.—This class of wildlife consists of birds and mammals that mainly inhabit swamps, marshes, or ponds. Examples are muskrat, mink, raccoon, redwing blackbird, snipe, and duck.

Engineering Uses of the Soils[6]

This section is useful to those who need information about soils used as structural material or as foundation upon which structures are built. Among those who can benefit from this section are planning commissioners, town and city managers, land developers, engineers, contractors, and farmers.

Among properties of soils highly important in engineering are permeability, strength, compaction characteristics, drainage, shrink-swell potential, grain size, plasticity, and reaction. Also important are depth to the water table, depth to bedrock, and soil slope. These properties, in various degrees and combinations, affect construction and maintenance of roads, airports, pipelines, foundations for small buildings, irrigation systems, ponds and small dams, and systems for disposal of sewage and refuse. Estimates of soil properties generally apply to a depth of about 5 to 6 feet. Interpretations, therefore, normally do not apply to depths greater than 5 to 6 feet.

Information in this section of the soil survey can be helpful to those who—

1. Select potential residential, industrial, commercial, and recreational areas.
2. Evaluate alternate routes for roads, highways, pipelines, and underground cables.
3. Plan farm drainage systems, irrigation systems, ponds, and other structures for controlling water and conserving soil.
4. Correlate performance of structures already built with properties of the kinds of soil on which they are built, for the purpose of predicting performance of structures on the same or similar kinds of soil in other locations.
5. Predict the trafficability of soils for cross-country movement of vehicles and construction equipment.
6. Develop preliminary estimates pertinent to construction in a particular area.

Most of the information in this section is presented in tables 5, 6, and 7, which show, respectively, results of engineering laboratory tests on soil samples; estimated soil properties significant to engineering; and interpretations for various engineering uses. This information, along with the soil map and other parts of this publication, can be used to make interpretations in addition to those given in the tables. It also can be used to make other useful maps.

The information in the tables, however, does not eliminate need for further investigations at sites selected for

[6] S. T. CURRIN P. E., civil engineer, and B. H. JONES, civil engineer, Soil Conservation Service, assisted in writing this section.

TABLE 5.—*Engineering*

[Tests performed by North Carolina State Highway Commission, Department of Materials and Tests,

Soil name and location	Parent material	Report No. S65NC–74	Depth from surface	Moisture density [1]	
				Maximum dry density	Optimum moisture
			In.	*Lb./cu.ft.*	*Pct.*
Craven fine sandy loam:					
500 ft. E. of State Road 1925; 70 ft. N. of State Road 1927; three-fourths mile S. of State Highway No. 102; 1 mile W. of State Highway No. 43; 1½ miles SW. of Calico.	Coastal Plain sediment.	1–1	0–7	14	
		1–3	9–22	104	21
		1–6	38–60	103	21
Exum fine sandy loam:					
3.6 miles S. of Bethel; 150 ft. N. of junction of State Road 1424 and State Highway No. 11; 80 ft. E. of State Highway No. 11; 90 ft. S. of power pole No. 4866–X.	Coastal Plain sediment.	6–1	0–8	109	13
		6–4	24–38	110	17
		6–6	51–72	104	20
Leaf silt loam:					
0.2 mile N. of Coxville; 110 ft. E. of State Road 1753; 60 ft. S. of a field ditch.	Coastal Plain sediment.	2–1	0–6	107	16
		2–3	19–35	101	20
		2–5	50–70	96	24
Lenoir loam:					
1½ miles SW. of Calico; 25 ft. S. of State Road 1927; three-fourths mile SW. of State Highway No. 102; one-fourth mile W. of State Highway No. 43. (Less clayey than modal)	Coastal Plain sediment.	3–1	0–8	105	15
		3–3	11–25	110	17
		3–6	50–80	107	18

[1] Based on AASHO Designation T99 Method A (*1*).

[2] Mechanical analyses according to AASHO designation T88 (*1*). Results by this procedure frequently may differ somewhat from results that would have been obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method

engineering works, especially works that involve heavy loads or that require excavations to depths greater than those shown in the tables, generally depths greater than 6 feet. Also, inspection of sites, especially the small ones, is needed because many delineated areas of a given soil mapping unit may contain small areas of other kinds of soil that have strongly contrasting properties and different suitabilities or limitations for soil engineering.

Some of the terms used in this soil survey have special meaning to soil scientists tl ıt is not known to all engineers. The Glossary defines many of the terms commonly used in soil science.

Engineering soil classification systems

The two systems most commonly used in classifying samples of soils for engineering are the Unified system (*12*) used by the SCS engineers, Department of Defense, and others, and the AASHO system adopted by the American Association of State Highway Officials (*1*).

In the Unified system, soils are classified according to particle-size distribution, plasticity, liquid limit, and organic matter. Soils are grouped in 15 classes. There are eight classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; six classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and one class of highly organic soils, identified as Pt. Soils on the borderline between two classes are designated by symbols for both classes; for example, ML–CL.

The AASHO system is used to classify soils according to those properties that affect use in highway construction and maintenance. In this system a soil is placed in one of seven basic groups ranging from A–1 through A–7 on the basis of grain-size distribution, liquid limit, and plasticity index. In group A–1 are gravelly soils of high bearing strength, or the best soils for subgrade (foundation). At the other extreme, in group A–7, are clay soils that have low strength when wet and that are the poorest soils for subgrade. Where laboratory data are available to justify a further breakdown, the A–1, A–2, and A–7 groups are divided as follows: A–1–a, A–1–b, A–2–4, A–2–5, A–2–6, A–2–7, A–7–5, and A–7–6. As additional refinement, the engineering value of a soil material can be indicated by a group index number. Group indexes range from 0 for the best material to 20 or more for the poorest. The AASHO classification for tested soils, with group index numbers in parentheses, is shown in table 5; the estimated classification, without group index numbers, is given in table 6 for all soils mapped in the survey area.

Engineering test data

Samples of four profiles, representing four soil series, were tested by the North Carolina State Highway Commission so that the soils could be evaluated for engineering purposes. Results of these tests are shown in table 5. The test data indicate the characteristics of the soil at the specified location. The physical characteristics of each

test data

in cooperation with the United States Department of Commerce, Bureau of Public Roads]

Mechanical analysis [2]							Liquid limit	Plasticity index	Classification	
Percentage passing sieve—			Percentage smaller than—							
No. 10 (2.0 mm.)	No. 40 (0. 42 mm.)	No. 200 (0. 074 mm.)	0. 05 mm.	0. 02 mm.	0. 005 mm.	0. 002 mm.			AASHO [3]	Unified [4]
							Pct.			
---	---	50	36	20	12	8	(5)	(5)	A–4(3)	SM
---	---	77	69	59	47	42	52	31	A–7 6(18)	CH
---	---	67	58	50	44	39	51	29	A–7–6(16)	CH
---	100	73	54	31	14	9	17	(5)	A–4(8)	ML
---	---	76	63	51	36	31	38	19	A 6(12)	CL
---	---	71	60	49	40	36	54	32	A–7–6(18)	CH
100	98	81	76	58	24	16	22	2	A–4(8)	ML
100	99	91	90	82	55	43	51	28	A–7–6(17)	CH
---	100	92	90	83	65	58	67	38	A–7–6(20)	CH
100	97	75	65	48	20	11	22	1	A–4(7)	ML
100	99	81	76	65	41	33	38	18	A–6(11)	CL
100	97	59	55	49	40	36	47	27	A–7–6(12)	CL

and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analyses used in this table are not suitable for use in naming textural classes for soil.

[3] Based on AASHO Designation M 145–49 (*1*).

[4] Based on "Unified Soil Classification System for Roads, Airfields, Embankments and Foundations," MIL–STD–619B (*12*).

[5] Nonplastic.

TABLE 6.—*Estimated soil properties*

[The symbol > means greater

Soil series, land types, and map symbols	Flooding	Depth to seasonal high water table	Depth from surface (typical profile)	Classification
				USDA texture
		Ft.	*In.*	
Alaga: AgB	None	>5	0–72	Loamy sand
			72–85	Sand
Altavista: AlB	Infrequent and very brief.	2.5	0–14	Sandy loam
			14–37	Sandy clay loam, sandy loam
			37–92	Loamy coarse sand, loamy fine sand, coarse sand.
Aycock: AyA, AyB, AyB2	None	>5	0–10	Fine sandy loam
			10–72	Sandy clay loam, clay loam
			72–85	Sandy clay
Bibb: Bb	Very frequent and very brief.	0	0–21	Fine sandy loam
			21–36	Sandy loam
			36–72	Sand
Bladen: Bd	Frequent and very brief.	0	0–7	Fine sandy loam
			7–14	Sandy clay
			14–70	Clay
Byars: By	Infrequent and very brief.	0	0–13	Loam
			13–63	Silty clay
			63–72	Sandy clay loam
Cape Fear: Ca	Frequent and very brief.	0	0–14	Loam
			14–40	Clay
			40–60	Coarse sand
Chipley: Ch	Infrequent and very brief.	2.5	0–14	Sand
			14–52	Fine sand, sand
			52–86	Coarse sand
Coxville: Co	Frequent and very brief.	0	0–11	Fine sandy loam
			11–70	Sandy clay, clay loam
Craven: CrA, CrB, CrB2, CrC	None	2.5	0–12	Fine sandy loam
			12–78	Clay
Exum: ExA, ExB	None	2.5	0–12	Fine sandy loam
			12–62	Clay loam
			62–72	Sandy clay loam
Goldsboro: GoA, GoB	None	2.5	0–17	Sandy loam
			17–75	Sandy clay loam
Lakeland: LaB	None	>5	0–29	Sand, fine sand
			29–82	Coarse sand
Leaf: Le	Frequent and very brief.	0	0–6	Silt loam
			6–70	Silty clay, clay
			70–80	Sandy loam
Lenoir, thin solum variant: LnA	Infrequent and very brief.	1.5	0–7	Fine sandy loam
			7–36	Clay
			36–58	Loamy sand, coarse sand
Lenoir: LoA	None	1.5	0–8	Loam
			8–72	Clay, silty clay, sandy clay
			72–80	Loamy sand
Lynchburg: Ly	None	1.5	0–10	Fine sandy loam
			10–48	Sandy clay loam
			48–62	Sandy loam

See footnote at end of table.

significant to engineering

than; < means less than]

Classification—Continued		Material less than 3 inches in diameter passing sieve [1]—			Permeability	Available water capacity	Reaction	Shrink-swell potential
Unified	AASHO	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)				
		Pct.	*Pct.*	*Pct.*	*In. per hr.*	*In. per in. of soil*	*pH*	
SM	A–2	100	50–75	15–30	6. 3–20. 0	0. 06–0. 08	4. 5–6. 0	Low.
SP–SM	A–3, A–2	95–100	51–70	5–12	6. 3–20. 0	0. 05–0. 07	5. 6–6. 0	Low.
SM	A–2, A–4	100	60–85	30–45	2. 0–6. 3	0. 11–0. 13	4. 5–6. 0	Low.
SC, CL	A–6, A–4	100	80–95	36–55	0. 63–2. 0	0. 12–0. 14	4. 5–5. 5	Low.
SM, SP–SM	A–2	90–100	50–75	5–30	2. 0–6. 3	0. 07–0. 09	4. 5–5. 5	Low.
ML	A–4	100	70–85	51–60	2. 0–6. 3	0. 11–0. 13	4. 5–6. 0	Low.
CL	A–6	100	80–100	55–80	0. 63–2. 0	0. 16–0. 18	4. 5–5. 5	Low to moderate.
CL	A–7	95–100	85–100	51–60	0. 63–2. 0	0. 14–0. 16	4. 5–5. 0	Low.
SM	A–4	95–100	60–70	40–50	0. 63–2. 0	0. 12–0. 14	4. 5–6. 0	Low.
SM	A–2, A–4	95–100	60–70	30–40	0. 63–2. 0	0. 12–0. 14	4. 5–5. 0	Low.
SP–SM	A–3, A 2	95–100	51–70	5–12	6. 3–20. 0	0. 05–0. 07	5. 6–6. 0	Low.
SM, ML	A–4	100	95–100	45–60	0. 63–2. 0	0. 11–0. 13	4. 5–5. 5	Low.
CL	A–7, A 6	100	85–95	51–60	0. 06–0. 20	0. 10–0. 12	4. 5–5. 0	Moderate.
CH	A 7	100	95–100	65–80	0. 06–0. 20	0. 10–0. 12	4. 5–5. 0	Moderate.
ML	A–4	100	85–95	60–75	0. 63–2. 0	0. 15–0. 17	<4. 5–5. 0	Low.
CH	A–7	100	90–100	75–95	0. 06–0. 20	0. 13–0. 15	<4. 5–5. 0	High.
CL	A–6	100	80–90	51–55	0. 63–2. 0	0. 13–0. 15	<4. 5	Low.
ML	A–4	100	85–95	60–75	0. 63–2. 0	0. 12–0. 14	4. 5–5. 5	Low.
CL	A 7, A–6	100	90–100	75–90	0. 06–0. 20	0. 14–0. 16	4. 5–5. 0	High.
SP–SM	A–3, A–2	95–100	51–70	5–12	6. 3–20. 0	0. 05–0. 07	4. 5–5. 0	Low.
SP–SM	A–3, A–2	100	51–70	5–12	6. 3–20. 0	0. 03–0. 06	4. 5–6. 5	Low.
SP–SM	A–3, A–2	100	65 80	5–12	6. 3–20. 0	0. 03–0. 06	5. 1–5. 5	Low.
SP–SM	A–2, A–3	95–100	51–70	5–12	6. 3–20. 0	0. 03–0. 06	4. 5–5. 0	Low.
SM	A–4	100	70–85	40–50	0. 63–2. 0	0. 15–0. 17	<4. 5–6. 5	Low.
CL, SC	A 6, A–7	100	80–95	36–60	0. 20–0. 63	0. 13–0. 15	<4. 5–5. 0	Moderate.
SM	A–4	100	75–100	40–50	0. 63–2. 0	0. 11–0. 13	<4. 5–6. 0	Low.
CH	A–7	95–100	90–100	75–95	0. 06–0. 20	0. 13–0. 15	<4. 5–5. 0	High.
ML	A–4	100	85–100	51–75	2. 0–6. 3	0. 11–0. 13	4. 5–6. 0	Low.
CL	A–6, A 7	100	90–100	70–80	0. 63 2. 0	0. 16–0. 18	4. 5 5. 5	Moderate.
SC, CH	A–6, A–7	100	80–100	36–80	0. 63–2. 0	0. 16–0. 18	4. 5–5. 0	Low to moderate.
SM	A–2, A–4	100	60–70	30–40	2. 0–6. 3	0. 10–0. 12	4. 5–6. 0	Low.
SC, ML–CL	A–2, A–4	95–100	80–90	36–55	0. 63–2. 0	0. 13–0. 15	4. 5–5. 0	Low.
SP–SM	A–3, A–2	100	51–80	5–12	6. 3–20. 0	0. 04–0. 06	5. 1–6. 0	Low.
SP–SM	A–2, A–3	95–100	51–70	5–12	6. 3–20. 0	0. 03–0. 05	5. 6–6. 0	Low.
ML	A–4	100	90–100	70–90	0. 63–2. 0	0. 14–0. 16	<4. 5–5. 5	Moderate.
CH	A–7	100	90–100	75–95	0. 06–0. 20	0. 15–0. 17	<4. 5–5. 0	High.
SM, SC	A–4	95–100	60–70	40–50	2. 0–6. 3	0. 11–0. 13	<4. 5	Low.
SM	A–2, A–4	100	70–85	30–50	2. 0–6. 3	0. 11–0. 13	4. 5–6. 5	Low.
CH	A–7	100	90–100	75–95	0. 06–0. 20	0. 14–0. 16	4. 5–5. 5	High.
SM, SP SM	A–2, A–3	95–100	51–70	5–30	6. 3–20. 0	0. 05–0. 07	4. 5–5. 5	Low.
ML	A–4	100	85–100	60–80	0. 63–2. 0	0. 13–0. 15	4. 5–6. 0	Low.
CL, CH	A–7, A–6	100	80–100	55–95	0. 06–0. 20	0. 15–0. 17	4. 5–5. 0	High.
SM	A–2	95–100	50–100	15–30	2. 0–6. 3	0. 09–0. 11	4. 5–5. 0	Low.
SM	A–4	100	70–85	40–50	2. 0–6. 3	0. 11–0. 13	4. 5–6. 5	Low.
SC, CL	A–6, A–4	100	80–90	36–55	0. 63–2. 0	0. 13–0. 15	4. 5–5. 5	Low.
SM	A–2, A–4	95–100	60–70	30–40	2. 0–6. 3	0. 11–0. 13	4. 5–5. 0	Low.

TABLE 6.—*Estimated soil properties*

Soil series, land types, and map symbols	Flooding	Depth to seasonal high water table	Depth from surface (typical profile)	Classification: USDA texture
		Ft.	*In.*	
Masada: MaB	None	>5	0–15	Sandy loam
			15–36	Sandy loam, sandy clay loam
			36–60	Sand, coarse sand
Nahunta: Na	None	1.5	0–20	Silt loam
			20–72	Silty clay loam
Norfolk: NrA, NrB, NrB2	None	>5	0–10	Sandy loam
			10–72	Sandy clay loam
			72–84	Sandy loam
Ocilla: OcB	None	2.5	0–22	Loamy fine sand
			22–75	Sandy clay loam
Olustee, sandy subsoil variant: Oe	Frequent and brief	0	0–12	Loamy sand
			12–85	Fine sand, sand, coarse sand
Osier: Os	Frequent and very brief.	0	0–19	Loamy sand
			19–54	Fine sand, sand, loamy sand
			54–80	Sandy loam, loamy sand
Pactolus: Pa	None	2.5	0–64	Loamy sand, loamy fine sand
			64–90	Coarse sand
Pantego: Pg	Frequent and very brief.	0	0–14	Loam
			14–69	Sandy clay loam
			69–80	Sandy loam
Portsmouth: Po	Frequent and very brief.	0	0–15	Loam
			15–39	Sandy loam, sandy clay loam
			39–68	Sand, coarse sand
Rains: Ra	Frequent and very brief.	0	0–13	Fine sandy loam
			13–74	Sandy clay loam
Roanoke: Ro	Frequent and very brief.	0	0–9	Silt loam
			9–42	Clay loam, silty clay loam, clay
			42–74	Loamy fine sand, loamy sand, sand
Swamp: Sw. Properties variable; not estimated.	Very frequent and long.			
Tuckerman: Tu	Infrequent and very brief.	0	0–20	Fine sandy loam
			20–36	Sandy clay loam, fine sandy loam
			36–72	Loamy sand, coarse sand
Wagram: WaB, WaC	None	>5	0–25	Loamy sand
			25–66	Sandy clay loam
			66–84	Loamy sand
Wickham: WkB	Infrequent and very brief.	>5	0–17	Sandy loam
			17–42	Sandy clay loam, sandy loam
			42–80	Loamy sand, sand

[1] 100 percent of the material less than 3 inches in diameter for all soils mapped passed through the No. 4 sieve.

significant to engineering.—Continued

Classification—Continued		Material less than 3 inches in diameter passing sieve [1]—			Permeability	Available water capacity	Reaction	Shrink-swell potential
Unified	AASHO	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)				
		Pct.	*Pct.*	*Pct.*	*In. per hr.*	*In. per in. of soil*	*pH*	
SM	A–2, A–4	100	60–85	30–40	2. 0–6. 3	0. 11–0. 13	4. 5–6. 0	Low.
SC	A–6	100	80–90	36–50	0. 63–2. 0	0. 13–0. 15	5. 1–5. 5	Low.
SP–SM	A–2, A–3	95–100	51 70	5–12	2. 0–6. 3	0. 07 0. 09	4. 5–5. 0	Low.
ML	A–4	100	90–100	70–90	0. 63–2. 0	0. 15–0. 17	<4. 5–5. 0	Low.
ML–CL, CL	A–6	100	95–100	85–95	0. 63–2. 0	0. 15–0. 17	<4. 5–5. 0	Low.
SM	A–2, A–4	100	60–70	30–40	2. 0–6. 3	0. 11–0. 13	4. 5–6. 5	Low.
SC, CL	A–6, A 4	100	80–90	36–55	0. 63–2. 0	0. 13 0. 15	4. 5–5. 5	Low.
SM	A–2, A 4	95–100	60 70	30–40	2. 0–6. 3	0. 11–0. 13	4. 5–5. 0	Low.
SM	A–2	100	50–75	15–30	2. 0–6. 3	0. 06–0. 08	4. 5–6. 0	Low.
SC	A–6	95–100	80–90	36 50	0. 63–2. 0	0. 10–0. 12	4. 5–5. 0	Low.
SM	A 2	100	51–75	15–30	6. 3–20. 0	0. 06–0. 08	4. 5–5. 5	Low.
SP–SM	A–3, A–2	95–100	51–80	5–12	6. 3–20. 0	0. 05–0. 07	4. 5–5. 5	Low.
SM	A–2	100	51–75	15–30	6. 3–20. 0	0. 06–0. 08	4. 5 6. 0	Low.
SP–SM, SM	A–3, A–2	100	51–80	5–30	6. 3–20. 0	0. 03–0. 05	5. 1–5. 5	Low.
SM	A–2	95–100	51–75	15–35	2. 0–6. 3	0. 11–0. 13	4. 5–5. 5	Low.
SM	A–2	100	51–75	15 30	6. 3–20. 0	0. 06–0. 08	4. 5–6. 5	Low.
SP–SM	A 2, A–3	95–100	51–75	5–12	6. 3–20. 0	0. 05–0. 07	5. 6–6. 0	Low.
ML	A 4	100	85–95	60–75	2. 0–6. 3	0. 15–0. 17	4. 5–6. 0	Low.
SC, CL	A–6, A–4	100	85–95	36–55	0. 63–2. 0	0. 13–0. 15	4. 5 5. 0	Low.
SM–SC, SC	A–2, A–4	95 100	60–70	30–40	2. 0–6. 3	0. 11 0. 13	4. 5–5. 0	Low.
ML	A–4	100	85–95	60–75	2. 0–6. 3	0. 15 0. 17	4. 5–5. 5	Low.
SM, SC	A–2, A 6, A–4	100	60–90	30–50	0. 63–2. 0	0. 13–0. 15	4. 5–5. 0	Low.
SP–SM	A–3, A–2	95–100	51 70	5–12	6. 3–20. 0	0. 05 0. 07	4. 5–5. 5	Low.
SM	A–4	100	70–85	40–50	2. 0–6. 3	0. 10–0. 12	4. 5–6. 0	Low.
SC, CL	A–6, A–4	95–100	80–90	36–55	0. 63–2. 0	0. 13–0. 15	4. 5–5. 0	Low.
ML	A–4	100	85–100	70–90	0. 63–2. 0	0. 12–0. 14	4. 5–6. 0	Low.
CH	A–7	100	90–100	70–95	0. 06–0. 20	0. 14 0. 16	4. 5–5. 0	High.
SM, SP–SM	A–2	95–100	51–75	5–30	6. 3–20. 0	0. 07–0. 09	4. 5–5. 0	Low.
SM	A–4	100	70–85	36–50	0. 63–2. 0	0. 11–0. 13	5. 6–6. 5	Low.
CL, SM, SC	A–6, A–4	100	70 90	36–55	0. 63–2. 0	0. 14–0. 16	5. 6–6. 0	Moderate.
SM, SP–SM	A 2	95–100	51–75	5–30	6. 3–20. 0	0. 05–0. 07	5. 6–6. 5	Low.
SM	A–2	100	51 75	15–30	6. 3–20. 0	0. 07–0. 09	<4. 5–6. 0	Low.
SC, CL	A–6, A–2	100	80 90	30–55	2. 0–6. 3	0. 14–0. 16	4. 5–5. 0	Low.
SM	A–2	95–100	51–75	15–30	6. 3–20. 0	0. 06–0. 08	<4. 5	Low.
SM	A 2	100	51–75	15–30	2. 0–6. 3	0. 12–0. 14	4. 5–6. 0	Low.
SC, SM, CL	A–6, A–4, A–2	100	60–90	30–55	0. 63–2. 0	0. 13–0. 15	4. 5–5. 0	Low.
SM, SP–SM	A–2, A–3	90–100	51–75	5–30	6. 3–20. 0	0. 06–0. 08	5. 1–5. 5	Low.

TABLE 7.—*Interpretations of engineering*

Soil series, land types, and map symbols	Suitability as source of—		Degree and kind of limitation for—				
					Recreation		
	Topsoil	Road fill	Septic tank filter fields	Dwellings	Camp sites	Picnic areas	Intensive play areas
Alaga: AgB	Poor: too sandy.	Good where soil binder is added.	Slight to severe: low filtering action; possible contamination of ground water.	Slight	Moderate: too sandy; susceptible to soil blowing.	Moderate: too sandy; susceptible to soil blowing.	Severe: too sandy; susceptible to soil blowing.
Altavista: AlB	Fair: layer of suitable material less than 16 inches thick.	Fair: seasonal high water table; medium traffic-supporting capacity.	Severe: seasonal high water table; subject to infrequent flooding.	Moderate: seasonal high water table; severe where subject to flooding.	Moderate: seasonal high water table; severe where subject to flooding.	Moderate: seasonal high water table; subject to infrequent flooding.	Moderate: seasonal high water table; subject to infrequent flooding.
Aycock: AyA, AyB, AyB2.	Fair: layer of suitable material less than 16 inches thick.	Fair: medium traffic-supporting capacity.	Moderate: moderate permeability.	Slight to moderate: low to moderate shrink-swell potential.	Slight	Slight	Slight where slopes are 0 to 2 percent; moderate where slopes are 2 to 6 percent.
Bibb: Bb	Poor: poorly drained.	Poor: seasonal high water table.	Severe: seasonal high water table; subject to very frequent flooding.	Severe: seasonal high water table; subject to very frequent flooding.	Severe: seasonal high water table; subject to very frequent flooding.	Severe: seasonal high water table; subject to very frequent flooding.	Severe: seasonal high water table; subject to very frequent flooding.
Bladen: Bd	Poor: poorly drained.	Poor: seasonal high water table; medium to low traffic-supporting capacity.	Severe: seasonal high water table; slow permeability.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.
Byars: By	Poor: very poorly drained.	Poor: low traffic-supporting capacity; seasonal high water table.	Severe: seasonal high water table; slow permeability.	Severe: seasonal high water table; high shrink-swell potential; subject to infrequent flooding.	Severe: seasonal high water table: subject to infrequent flooding.	Severe: seasonal high water table; subject to infrequent flooding.	Severe: seasonal high water table; subject to infrequent flooding

properties of the soils for stated uses

Degree and kind of limitation for—Con.	Soil features affecting—						
Light industry	Highway location	Trenching to depth of 4 feet or more	Earth dams		Excavated ponds	Drainage for crops and pasture	Sprinkler irrigation
			Reservoir area	Compacted embankment			
Slight	Erodible where exposed; sandy material hinders loading and hauling.	Unstable, sandy material.	Rapid permeability.	Fair stability; medium to high permeability; poor resistance to piping and to erosion.	Unstable, sandy material; water table below depth of about 6 feet in dry seasons.	Well drained	Rapid infiltration; low available water capacity; susceptible to soil blowing; rapid permeability.
Moderate: seasonal high water table; severe where subject to flooding.	Seasonal high water table; subject to infrequent flooding.	Unstable, sandy material below depth of about 37 inches; seasonal high water table.	Moderate permeability; sandy material below depth of about 37 inches; seasonal high water table.	Fair to good resistance to piping and to erosion; slight to medium compressibility.	Unstable, sandy material at depth below about 37 inches.	Moderate permeability; unstable sandy material below depth of about 37 inches; seasonal high water table.	Seasonal high water table; moderate permeability; slope.
Slight to moderate: low to moderate shrink-swell potential; slope.	Features generally favorable.	Features generally favorable.	Moderate permeability.	Medium compressibility; fair to poor resistance to piping and to erosion.	Water table below depth of about 6 feet in dry seasons.	Well drained	Moderate permeability; slope; moderately slow infiltration on eroded soil.
Severe: seasonal high water table; subject to very frequent flooding.	Seasonal high water table; subject to very frequent flooding.	Unstable, sandy material below depth of about 36 inches; seasonal high water table.	Moderate permeability; nearly level; seasonal high water table; sandy material below depth of about 36 inches.	Fair stability; medium permeability; fair to poor resistance to piping and to erosion.	Fairly unstable soil material.	Subject to very frequent flooding; moderate permeability; seasonal high water table; few outlets.	Moderate permeability; seasonal high water table; subject to very frequent flooding.
Severe: seasonal high water table.	Seasonal high water table; moderate shrink-swell potential; very plastic; difficult to load and haul.	Seasonal high water table.	Slow permeability; nearly level; seasonal high water table.	Fair stability; moderate shrink-swell potential; medium to high compressibility.	Slow permeability.	Slow permeability; seasonal high water table.	Seasonal high water table; slow permeability.
Severe: seasonal high water table; high shrink-swell potential; subject to infrequent flooding.	Seasonal high water table; high shrink-swell potential; very plastic; difficult to load and haul.	Seasonal high water table.	Slow permeability; seasonal high water table; nearly level.	Fair stability; high shrink-swell potential; high compressibility.	Slow permeability.	Slow permeability; seasonal high water table.	Seasonal high water table; slow permeability.

TABLE 7.—*Interpretations of engineering*

Soil series, land types, and map symbols	Suitability as source of—		Degree and kind of limitation for—				
	Topsoil	Road fill	Septic tank filter fields	Dwellings	Recreation		
					Camp sites	Picnic areas	Intensive play areas
Cape Fear: Ca	Poor: very poorly drained.	Poor: seasonal high water table.	Severe: seasonal high water table; subject to frequent flooding; slow permeability.	Severe: seasonal high water table; high shrink-swell potential; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent. flooding.	Severe: seasonal high water table; subject to frequent flooding.
Chipley: Ch	Poor: too sandy.	Fair: seasonal high water table.	Severe: seasonal high water table; low filtering action; possible contamination of ground water.	Moderate: seasonal high water table.	Moderate: seasonal high water table; too sandy.	Severe: too sandy.	Severe: too sandy.
Coxville: Co	Poor: poorly drained.	Poor: seasonal high water table.	Severe: seasonal high water table; moderately slow permeability.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.
Craven: CrA, CrB, CrB2, CrC.	Fair: layer of suitable material less than 16 inches thick.	Poor: low traffic-supporting capacity; seasonal high water table.	Severe: slow permeability.	Severe: high shrink-swell potential.	Moderate: slow permeability.	Slight where slopes are 0 to 6 percent; moderate where slopes are 6 to 10 percent.	Moderate where slopes are 0 to 6 percent; slow permeability; severe where slopes are more than 6 percent.
Exum: ExA, ExB.	Fair: layer of suitable material less than 16 inches thick.	Fair: medium traffic-supporting capacity; seasonal high water table.	Severe: seasonal high water table.	Moderate: seasonal high water table.	Slight	Slight	Slight where slopes are 0 to 2 percent; moderate where slopes are 2 to 6 percent.

properties of the soils for stated uses.—Continued

Degree and kind of limitation for—Con.	Soil features affecting—						
			Earth dams				
Light industry	Highway location	Trenching to depth of 4 feet or more	Reservoir area	Compacted embankment	Excavated ponds	Drainage for crops and pasture	Sprinkler irrigation
Severe: seasonal high water table; high shrink-swell potential; subject to frequent flooding.	Seasonal high water table; subject to frequent flooding; high shrink-swell potential.	Unstable, sandy material below depth of about 40 inches; seasonal high water table.	Slow permeability; seasonal high water table; nearly level; sandy material below depth of about 40 inches.	Fair to good stability; high shrink-swell potential; medium compressibility.	Unstable, sandy material below depth of about 40 inches.	Slow permeability; seasonal high water table; subject to frequent flooding; unstable, sandy material below depth of about 40 inches.	Seasonal high water table; slow permeability.
Moderate: seasonal high water table.	Seasonal high water table; sandy material hinders loading and hauling.	Unstable, sandy material; seasonal high water table.	Rapid permeability; seasonal high water table.	Fair to poor stability; medium to high permeability; fair to poor resistance to piping.	Water table below depth of 6 feet in dry seasons; unstable, sandy material.	Rapid permeability; unstable, sandy material; seasonal high water table.	Rapid infiltration rate; very low available water capacity; seasonal high water table; rapid permeability.
Severe: seasonal high water table.	Seasonal high water table; moderate shrink-swell potential; plastic; difficult to load and haul.	Seasonal high water table.	Moderately slow permeability; nearly level; seasonal high water table.	Moderate shrink-swell potential; medium compressibility; fair to good resistance to piping.	Moderately slow permeability.	Moderately slow permeability; seasonal high water table.	Seasonal high water table; moderately slow permeability.
Severe: high shrink-swell potential.	Seasonal high water table; very plastic; difficult to load and haul; unstable on cut slopes; high shrink-swell potential.	Seasonal high water table.	Slow permeability; seasonal high water table.	Fair stability; high shrink-swell potential; high compressibility.	Water table below depth of 6 feet in dry seasons.	Slow permeability; seasonal high water table.	Seasonal high water table; slow permeability; slope; moderately slow infiltration in CrB2.
Moderate: seasonal high water table.	Seasonal high water table.	Seasonal high water table.	Moderate permeability; seasonal high water table.	Fair to good stability; moderate shrink-swell potential; medium compressibility; good to fair resistance to piping and to erosion.	Water table below depth of 6 feet in dry seasons.	Moderate permeability; seasonal high water table.	Seasonal high water table; moderate permeability; slope.

TABLE 7.—*Interpretations of engineering*

Soil series, land types, and map symbols	Suitability as source of—		Degree and kind of limitation for—				
					Recreation		
	Topsoil	Road fill	Septic tank filter fields	Dwellings	Camp sites	Picnic areas	Intensive play areas
Goldsboro: GoA, GoB.	Good	Fair: medium traffic-supporting capacity; seasonal high water table.	Severe: seasonal high water table.	Moderate: seasonal high water table.	Slight	Slight	Slight where slopes are 0 to 2 percent; moderate where slopes are 2 to 6 percent.
Lakeland: LaB	Poor: too sandy.	Good where soil binder is added.	Slight to severe: low filtering action; possible contamination of ground water.	Slight	Moderate: too sandy; susceptible to soil blowing.	Moderate: too sandy; susceptible to soil blowing.	Severe: too sandy; susceptible to soil blowing.
Leaf: Le	Poor: poorly drained.	Poor: low traffic-supporting capacity; seasonal high water table.	Severe: seasonal high water table; slow permeability; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding; high shrink-swell potential.	Severe: seasonal high water table; subject to frequent flooding; slow permeability.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding; slow permeability.
Lenoir, thin solum variant: LnA	Fair: suitable material less than 16 inches thick.	Poor: high shrink-swell potential; low traffic-supporting capacity; seasonal high water table.	Severe: seasonal high water table; slow permeability.	Severe: high shrink-swell potential; seasonal high water table; subject to infrequent flooding.	Severe: seasonal high water table; subject to infrequent flooding.	Severe: seasonal high water table.	Severe: seasonal high water table; subject to infrequent flooding.
Lenoir: LoA	Fair: suitable material less than 16 inches thick.	Poor: high shrink-swell potential; low traffic-supporting capacity; seasonal high water table.	Severe: seasonal high water table; slow permeability.	Severe: seasonal high water table; high shrink-swell potential.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.
Lynchburg: Ly	Fair: suitable material less than 16 inches thick.	Fair: seasonal high water table; medium traffic-supporting capacity.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.	Moderate: seasonal high water table.	Severe: seasonal high water table.

properties of the soils for stated uses.—Continued

Degree and kind of limitation for—Con.	Soil features affecting—						
			Earth dams				
Light industry	Highway location	Trenching to depth of 4 feet or more	Reservoir area	Compacted embankment	Excavated ponds	Drainage for crops and pasture	Sprinkler irrigation
Moderate: seasonal high water table.	Seasonal high water table.	Seasonal high water table.	Moderate permeability; seasonal high water table.	Fair to good stability; medium compressibility.	Water table below depth of 6 feet in dry seasons.	Moderate permeability; seasonal high water table.	Seasonal high water table; moderate permeability; slope.
Slight	Loose sand hinders loading and hauling; erodible where exposed.	Unstable sandy material.	Rapid permeability.	Fair to poor stability; medium to high permeability; fair to poor resistance to piping.	Water table below depth of 6 feet in dry seasons; unstable, sandy material.	Excessively drained.	Rapid infiltration; very low available water capacity; susceptible to soil blowing; rapid permeability.
Severe: seasonal high water table; subject to frequent flooding; high shrink-swell potential.	Seasonal high water table; high shrink-swell potential; very plastic; difficult to load and haul; subject to frequent flooding.	Seasonal high water table.	Slow permeability; nearly level; seasonal high water table.	Fair stability; high shrink-swell potential; high compressibility.	Water table below depth of 6 feet in dry season.	Slow permeability; seasonal high water table.	Seasonal high water table; slow permeability.
Severe: seasonal high water table; high shrink-swell potential; subject to infrequent flooding.	Seasonal high water table; high shrink-swell potential; subject to infrequent flooding; very plastic; difficult to load and haul.	Seasonal high water table.	Slow permeability; seasonal high water table; sandy below depth of about 36 inches.	Fair stability; high shrink-swell potential; medium to high compressibility.	Unstable, sandy material below depth of about 36 inches.	Slow permeability; seasonal high water table; unstable, sandy material below depth of about 36 inches.	Seasonal high water table; slow permeability.
Severe: seasonal high water table; high shrink-swell potential.	Seasonal high water table; high shrink-swell potential; plastic; difficult to load and haul.	Seasonal high water table.	Slow permeability; seasonal high water table.	Fair stability; high shrink-swell potential; medium to high compressibility.	Unstable, sandy material below depth of 36 inches.	Slow permeability; seasonal high water table.	Seasonal high water table; slow permeability.
Severe: seasonal high water table.	Seasonal high water table.	Seasonal high water table.	Moderate permeability; nearly level; seasonal high water table.	Fair to good stability; fair to good resistance to piping and to erosion.	Water table below depth of 6 feet in dry seasons.	Moderate permeability; seasonal high water table.	Seasonal high water table; moderate permeability.

TABLE 7.—*Interpretations of engineering*

Soil series, land types, and map symbols	Suitability as source of—		Degree and kind of limitation for—				
	Topsoil	Road fill	Septic tank filter fields	Dwellings	Recreation		
					Camp sites	Picnic areas	Intensive play areas
Masada: MaB	Good	Good	Slight	Slight	Slight	Slight	Slight to moderate; slope.
Nahunta: Na	Good	Fair: medium traffic-supporting capacity; seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.	Moderate: seasonal high water table.	Severe: seasonal high water table.
Norfolk: NrA, NrB, NrB2	Fair: suitable material less than 16 inches thick.	Fair to good: medium to high traffic-supporting capacity.	Slight	Slight	Slight	Slight	Slight where slopes are 0 to 2 percent; moderate where slopes are 2 to 6 percent.
Ocilla: OcB	Poor: too sandy.	Fair: seasonal high water table.	Severe: seasonal high water table.	Moderate: seasonal high water table.	Moderate: seasonal high water table; too sandy.	Moderate: seasonal high water table; too sandy.	Moderate: seasonal high water table; too sandy.
Olustee, sandy subsoil variant: Oe.	Poor: very poorly drained.	Poor: seasonal high water table.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table; too sandy.
Osier: Os	Poor: poorly drained.	Poor: seasonal high water table.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table.	Severe: seasonal high water table; subject to frequent flooding.

properties of the soils for stated uses.—Continued

Degree and kind of limitation for—Con.	Soil features affecting—						
			Earth dams				
Light industry	Highway location	Trenching to depth of 4 feet or more	Reservoir area	Compacted embankment	Excavated ponds	Drainage for crops and pasture	Sprinkler irrigation
Slight	Features generally favorable.	Unstable, sandy material below depth of about 36 inches.	Moderate permeability; sandy material below depth of about 36 inches.	Fair to good stability.	Unstable, sandy material below depth of about 36 inches.	Well drained	Moderate permeability; slope.
Severe: seasonal high water table.	Seasonal high water table.	Seasonal high water table.	Moderate permeability; nearly level; seasonal high water table.	Fair to good stability; fair resistance to piping; medium compressibility.	Water table below depth of 6 feet in dry seasons.	Moderate permeability; seasonal high water table.	Seasonal high water table; moderate permeability.
Slight	Features generally favorable.	Features generally favorable.	Moderate permeability.	Slight to medium compressibility.	Water table below depth of 6 feet in dry seasons.	Well drained	Moderate permeability; slope; moderately slow infiltration in NrB2.
Moderate: seasonal high water table.	Seasonal high water table.	Seasonal high water table.	Moderate permeability; seasonal high water table.	Fair stability; fair to good resistance to piping and to erosion.	Water table below depth of 6 feet in dry seasons.	Moderate permeability; seasonal high water table.	Rapid infiltration; seasonal high water table; low available water capacity; moderate permeability.
Severe: seasonal high water table; subject to frequent flooding.	Seasonal high water table; subject to frequent flooding; sandy material hinders loading and hauling.	Unstable, sandy material; seasonal high water table.	Rapid permeability; nearly level; seasonal high water table.	Poor to fair stability; medium to high permeability; poor resistance to piping and to erosion.	Unstable, sandy material.	Rapid permeability; seasonal high water table; subject to frequent flooding; unstable sand.	Rapid infiltration; low available water capacity; seasonal high water table; rapid permeability; subject to frequent flooding.
Severe: seasonal high water table; subject to frequent flooding.	Seasonal high water table; sandy material hinders loading and hauling.	Unstable, sandy material; seasonal high water table.	Rapid permeability; nearly level; seasonal high water table.	Poor to fair stability; poor resistance to piping and to erosion; medium to high permeability.	Unstable, sandy material.	Rapid permeability; seasonal high water table; unstable sandy material; subject to frequent flooding.	Rapid infiltration; seasonal high water table; low available water capacity; rapid permeability; subject to frequent flooding.

TABLE 7.—*Interpretations of engineering*

Soil series, land types, and map symbols	Suitability as source of—		Degree and kind of limitation for—				
	Topsoil	Road fill	Septic tank filter fields	Dwellings	Recreation		
					Camp sites	Picnic areas	Intensive play areas
Pactolus: Pa	Poor: too sandy.	Fair: seasonal high water table.	Severe: seasonal high water table; low filtering action; possible contamination of ground water.	Moderate: seasonal high water table.	Moderate: too sandy; seasonal high water table.	Moderate: too sandy; seasonal high water table.	Severe: too sandy; seasonal high water table.
Pantego: Pg	Poor: very poorly drained.	Poor: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table; ponding in low places.	Severe: seasonal high water table; ponding in low places.	Severe: seasonal high water table; ponding in low places.
Portsmouth: Po	Poor: very poorly drained.	Poor: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.
Rains: Ra	Poor: poorly drained.	Poor: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table.	Severe: seasonal high water table; ponding in low places.	Severe: seasonal high water table; ponding in low places.	Severe: seasonal high water table; ponding in low places.
Roanoke: Ro	Poor: poorly drained.	Poor: low traffic-supporting capacity; seasonal high water table.	Severe: seasonal high water table; subject to frequent flooding; slow permeability.	Severe: seasonal high water table; subject to frequent flooding; high shrink-swell potential.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.	Severe: seasonal high water table; subject to frequent flooding.
Swamp: Sw. Soil features too variable for interpretation.							

properties of the soils for stated uses.—Continued

Degree and kind of limitation for—Con.	Soil features affecting—						
			Earth dams				
Light industry	Highway location	Trenching to depth of 4 feet or more	Reservoir area	Compacted embankment	Excavated ponds	Drainage for crops and pasture	Sprinkler irrigation
Moderate: seasonal high water table.	Seasonal high water table; sandy material hinders loading and hauling.	Unstable, sandy material; seasonal high water table.	Rapid permeability; seasonal high water table.	Poor to fair stability; medium to high permeability; poor resistance to piping.	Unstable, sandy material.	Rapid permeability; seasonal high water table; unstable, sandy material.	Rapid infiltration; low available water capacity; seasonal high water table; rapid permeability.
Severe: seasonal high water table.	Seasonal high water table.	Seasonal high water table.	Moderate permeability; nearly level; seasonal high water table.	Fair to good stability; fair resistance to piping and to erosion.	Features generally favorable.	Moderate permeability; seasonal high water table.	Seasonal high water table; moderate permeability.
Severe: seasonal high water table; subject to frequent flooding.	Seasonal high water table; subject to frequent flooding.	Unstable, sandy material below depth of about 40 inches; seasonal high water table.	Moderate permeability; nearly level; seasonal high water table; sandy material below depth of about 40 inches.	Fair to good stability; fair resistance to piping and to erosion.	Unstable, sandy material below depth of about 40 inches.	Moderate permeability; seasonal high water table; subject to frequent flooding; unstable, sandy material at depth of about 40 inches.	Seasonal high water table; moderate permeability; subject to frequent flooding.
Severe: seasonal high water table.	Seasonal high water table.	Seasonal high water table.	Moderate permeability; nearly level; seasonal high water table.	Fair to good stability.	Features generally favorable.	Moderate permeability; seasonal high water table.	Seasonal high water table; moderate permeability.
Severe: seasonal high water table; subject to frequent flooding; high shrink-swell potential.	Seasonal high water table; high shrink-swell potential; very plastic; difficult to load and haul.	Unstable, sandy material below depth of about 42 inches; seasonal high water table.	Slow permeability; nearly level; seasonal high water table; sandy material below depth of about 42 inches.	Fair stability; high shrink-swell potential; high compressibility.	Unstable, sandy material below depth of about 42 inches.	Slow permeability; seasonal high water table; subject to frequent flooding.	Seasonal high water table; subject to frequent flooding; slow permeability.

TABLE 7.—*Interpretations of engineering*

Soil series, land types, and map symbols	Suitability as source of—		Degree and kind of limitation for—				
	Topsoil	Road fill	Septic tank filter fields	Dwellings	Recreation		
					Camp sites	Picnic areas	Intensive play areas
Tuckerman: Tu	Poor: poorly drained.	Poor: seasonal high water table.	Severe: seasonal high water table; subject to infrequent flooding.	Severe: seasonal high water table; subject to infrequent flooding.	Severe: seasonal high water table; subject to infrequent flooding.	Severe: seasonal high water table; subject to infrequent flooding.	Severe: seasonal high water table; subject to infrequent flooding.
Wagram: WaB, WaC	Poor: too sandy.	Good to fair: high to medium traffic-supporting capacity.	Slight on slopes of 0 to 6 percent; moderate on slopes of 6 to 10 percent.	Slight on slopes of 0 to 6 percent; moderate on slopes of 6 to 10 percent.	Moderate: too sandy; susceptible to soil blowing.	Moderate: too sandy; susceptible to soil blowing.	Severe: too sandy; susceptible to soil blowing.
Wickham: WkB	Good	Good to fair: high to medium traffic-supporting capacity.	Severe where subject to flooding; moderate where not subject to flooding; moderate permeability.	Severe where subject to flooding; slight where not subject to flooding.	Severe where subject to flooding; slight where not subject to flooding.	Slight	Severe where subject to flooding; slight to moderate where not subject to flooding; slope.

properties of the soils for stated uses Continued

Degree and kind of limitation for—Con.	Soil features affecting—						
			Earth dams				
Light industry	Highway location	Trenching to depth of 4 feet or more	Reservoir area	Compacted embankment	Excavated ponds	Drainage for crops and pasture	Sprinkler irrigation
Severe: seasonal high water table; subject to infrequent flooding.	Seasonal high water table; subject to infrequent flooding; moderate shrink-swell potential.	Unstable, sandy material below depth of about 36 inches; seasonal high water table.	Moderate permeability; nearly level; sandy material below depth of about 36 inches; seasonal high water table.	Fair to good stability; slight to medium compressibility; good to poor resistance to piping and to erosion.	Unstable, sandy material below depth of about 36 inches.	Moderate permeability; unstable, sandy material below depth of about 36 inches; seasonal high water table; subject to infrequent flooding.	Seasonal high water table; moderate permeability.
Slight on slopes of 0 to 6 percent; moderate on slopes of 6 to 10 percent.	Features generally favorable.	Features generally favorable.	Moderately rapid permeability.	Fair to good stability; good to poor resistance to piping and to erosion.	Water table below depth of 6 feet in dry seasons.	Well drained	Rapid infiltration; low available water capacity; susceptible to soil blowing; slope; moderately rapid permeability.
Severe where subject to flooding; slight where not subject to flooding.	Features generally favorable.	Unstable, sandy material below depth of about 42 inches.	Moderate permeability; sandy material below depth of about 42 inches.	Fair to good stability; good to poor resistance to piping and to erosion.	Unstable, sandy material below depth of about 42 inches.	Well drained	Moderate permeability; slope.

soil at other locations may vary from those of the soil sampled, in the surface layer and in the B and C horizons. All samples were obtained at a depth of less than 7 feet.

The engineering classifications in table 5 are based on data obtained by mechanical analyses and by tests made to determine liquid limit and plastic limit. Mechanical analyses were made by combined sieve and hydrometer methods.

The tests to determine plastic limit and liquid limit measure the effect of water on the consistence of the soil material. As the moisture content of a clayey soil increases from a dry state, the material changes from a semisolid to a plastic state. As the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material passes from a semisolid to a plastic state. The liquid limit is the moisture content at which the material passes from a plastic to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which a soil material is in a plastic condition.

Estimated properties of soils

Table 6 gives some of the significant characteristics of soils in this county. It also gives the engineering classification of the principal horizons in typical profiles.

Flooding refers to water that stands or flows on the surface as the result of stream overflow, runoff, or seepage. Frequent flooding means once in 1 to 5 years; infrequent flooding means once in 5 to 20 years; and very frequent flooding means oftener than once every year.

Depth to the seasonal high water table is based on field observations. For some soils, depth to the seasonal high water table is shown as more than 5 feet because a depth greater than 5 feet cannot be accurately estimated.

Depth to bedrock is not shown, because the soils in this county are deep enough over bedrock that bedrock does not affect their use.

The soil material in the main horizons is classified according to textural terms used by the U.S. Department of Agriculture. For the soils in table 6, the classifications shown for the Unified and AASHO systems are estimated based on the U.S. Department of Agriculture classification of texture and on the descriptions of the soils.

Estimates of percentages less than 3 inches in diameter passing sieve sizes 10, 40, and 200 are shown in table 6. Samples of soil material examined during the soil survey did not contain coarse fragments greater than 3 inches in diameter.

Estimates of permeability are for soil material in its natural state. They are based on field observations and on limited laboratory data.

Available water capacity refers to the capacity of a soil to hold water in a form available to plants. It is the amount of water held in the soil between field capacity, or about one-third atmosphere of tension, and the permanent wilting point, or about 15 atmospheres of tension. The amounts shown are based on the results of laboratory tests of a limited number of soils, or they are estimates based on available water capacity of similar soils.

Reaction refers to the degree of acidity or alkalinity of the soils. It is given in terms of pH values.

Shrink-swell potential indicates the expected change in volume when the content of moisture changes. It is estimated primarily on the basis of the amount and type of clay in a soil. In general, soils classified as CH and A–7 have high shrink-swell potential. Sandy soils have low shrink-swell potential.

Engineering interpretations

Table 7 gives interpretations of the properties that affect suitability of the soils for stated uses. The ratings and other interpretations in this table are based on estimated engineering properties of the soils that are given in table 6; on available test data, including those in table 5; and on field experience.

In table 7 soil limitations are indicated by the ratings slight, moderate, and severe. A rating of *slight* means that soil properties are generally favorable for the stated use or that limitations are minor and can be easily overcome. A rating of *moderate* means that some soil properties are unfavorable but that they can be overcome or modified by special planning, good design, and careful management. A rating of *severe* means that soil properties are unfavorable and so difficult to correct or overcome as to require major soil reclamation and special design.

Soil suitability is rated by the terms *good*, *fair*, and *poor*, which have, respectively, meanings approximately parallel to the terms *slight*, *moderate*, and *severe*.

Table 7 rates the soils according to their suitability as a source of topsoil. Topsoil refers to soil material that is presumed to be fertile or that will respond to fertilization, that is ordinarily rich in organic matter, and that is used to topdress embankments, lawns, and gardens. Soil factors considered in making suitability ratings for topsoil are depth to a seasonal high water table and natural fertility, texture, and thickness of the soil material.

Suitability for road fill is rated according to the shrink-swell potential, compaction characteristics, traffic-supporting capacity, and accessibility of the soil material and on depth to a seasonal high water table. The ratings indicate performance of soil material moved from borrow areas for the purpose of constructing subgrade for road fill.

Criteria for rating soils for use as filter fields for septic tanks are properties that limit the absorption of effluent. These properties are slope, susceptibility to flooding, presence of a seasonal high water table, and permeability of the subsoil and the substratum. Local experience with the performance of existing filter fields is also important.

Properties considered in rating soils as sites for dwellings are susceptibility to flooding, presence of a seasonal high water table, shrink-swell potential, and slope.

Soils are rated for use as campsites, picnic areas, and areas for intensive play, mainly on the basis of soil slope; presence of a seasonal high water table; and susceptibility to flooding, permeability, and texture of the surface layer.

The properties considered in evaluating soils as sites for light industry are susceptibility to flooding, presence of a seasonal high water table, shrink-swell potential, and slope.

Soil features that affect location of highways are susceptibility to flooding, depth to a seasonal high water

table, ease of hauling and loading, shrink-swell potential, and plasticity of the soil material. The entire soil profile of undisturbed soils is evaluated, but it is assumed that the surface material will be removed if the content of organic matter is high.

Soil features that affect construction of trenches 4 feet or more in depth are texture, presence of a seasonal high water table, and stability of the soil material in the trench walls.

Soil features that affect reservoir areas for earthen dams are permeability, presence of a seasonal high water table, texture, and topography. Those features that affect compacted embankments of earthen dams are slope, stability, compressibility under a load, shrink-swell potential, resistance to piping and to erosion, and compacted permeability.

Soil features affecting use of soils for excavated ponds for storing water are depth to the water table in dry periods, permeability, and stability of slopes.

Soil features that affect suitability of the soil for agricultural drainage are permeability, depth to a seasonal high water table, susceptibility to flooding, stability, and availability of outlets.

Available water capacity, susceptibility to soil blowing, infiltration rate, depth to a seasonal high water table, susceptibility to flooding, steepness of slope, and permeability are soil features that affect suitability of a soil for sprinkler irrigation.

Not given in table 7 are ratings as a source of sand and gravel and soil features affecting suitability of the soils for terraces. Except in a few places, the sand in this county contains appreciable amounts of silt and clay, which restrict its use for commercial purposes. Gravel occurs along stream terraces, but the deposits are small.

Terraces and other erosion control practices are needed for the sloping soils that are cultivated. Terraces can be established on most soils in the county that have slopes no greater than 6 percent, except on those soils that have a surface layer of loamy sand or sand. Adequate outlets are needed for safe disposal of runoff from terraces, diversions, and other drainageways. A cover of plants is needed in these drainageways.

Formation and Classification of the Soils

In this section the factors that have affected the formation and composition of soils in Pitt County are discussed. The soils are also classified according to the system currently used by the National Cooperative Soil Survey.

Factors of Soil Formation

Soil is the product of the combined effects of parent material, climate, plant and animal life, relief, and time. The characteristics of a soil at any given place depend upon the combined effects of these five environmental factors at that particular place. All of these factors affect the formation of every soil. In many places, however, one or two factors are dominant and fix most of the properties of the soil.

Parent material

Parent material is an important factor that causes differences in soils. The parent material of the soils in Pitt County is mainly of two closely related kinds. The first kind consists of unconsolidated rock material, sand, silt, and clay that make up the sediment of the Coastal Plain uplands. The second kind consists of material washed from the uplands and deposited as alluvium in drainageways, on flood plains, and on terraces. In some places the soil material has been moved by wind or gravity.

The parent materials of the soils in this county differ in mineral and chemical composition and in physical makeup. Differences in texture and some other major characteristics can be observed in the field. More obscure differences, such as in mineral composition, can be determined only by a careful examination in the laboratory.

Many of the differences among the soils of Pitt County reflect differences in the geologic material from which the soils formed. As an example, the Nahunta soils formed in sediment high in content of silt, and those soils are high in content of silt. In contrast, the Lakeland and Chipley soils formed in sediment that consists almost entirely of sand, and they are high in content of sand. The Craven soils formed in sediment that consists largely of clay, and they contain a large amount of clay. The Bibb soils, on flood plains, and the Wickham, Masada, Altavista, and Tuckerman soils, on terraces, formed in mixed alluvium consisting of sand, silt, and clay. Their profiles contain material of different textures.

Climate

Climate affects the physical, chemical, and biological relationships in the soil, primarily through the influence of precipitation and temperature. Water is necessary for biological activity. It also dissolves minerals and transports them, along with organic residue, through the soil profile. In a broad area, the amount of water that actually percolates through the soil depends mainly on the amount and duration of rainfall and on relative humidity, evapotranspiration, and the length of the frost-free period. Temperature influences the kind of organisms and their growth, and it influences the speed of physical and chemical reactions that take place in the soil.

Pitt County has a warm, humid climate. The relatively mild temperatures and abundant moisture cause rapid decomposition of organic matter and speed up chemical reactions in the soils. The abundant rainfall leaches out large amounts of soluble bases and carries the less soluble, finer particles downward. As a result, all the soils in this county are acid in reaction, and they are strongly leached. Within the county, variations in climate are slight. They probably do not cause local differences in the soils.

Plant and animal life

Plant and animal life in or on the soil modifies the formation of soils to some extent. To a large extent, the kinds and numbers of organisms are determined by the climate. To a varying degree, they are determined by parent material, relief, and time. Bacteria, fungi, and other microscopic organisms aid in weathering rock and in decomposing organic matter. The larger plants and

animals supply organic matter and transfer elements from the subsoil to the surface layer.

In most places the activities of fungi and micro-organisms in the soils of Pitt County take place only in the uppermost few inches of soil material. Earthworms and other small invertebrates carry on a slow, but continuous, cycle of soil mixing, mostly in the uppermost few inches of soil material. Rodents have had little effect on the formation of soils in this county.

Pitt County was originally covered by a forest consisting of many different kinds of conifers. These trees took up elements from the subsoil. They added organic matter to the surface layer through their leaves, roots, twigs, and eventually their trunks and branches. The remains of these trees decayed and were acted on by direct chemical reaction and by micro-organisms, earthworms, and other forms of life.

In the Norfolk, Aycock, and other well-drained soils, organic matter decays more rapidly than in poorly drained soils. Only a small amount of organic matter accumulates in the surface layer of well-drained soils. In the Pantego, Portsmouth, and other wet soils, decay is slower because oxidation of organic matter is retarded by the excess moisture. Therefore, these wet soils have a much higher content of organic matter in the surface layer than do the well-drained soils.

For the most part, plants and animals determine the kind of organic matter that is added to the soil and the way in which this organic matter is incorporated into the soil. They transfer nutrient elements from one horizon to another. In many places they transport soil material from one horizon to another. Plants and animals affect the gains and losses of organic matter and the gains and losses of nitrogen and other plant nutrients. They also alter soil structure and porosity.

Relief

Relief has been an important factor in the formation of soils in this county. It influences runoff, erosion, drainage, aeration, and exposure to sun and wind. The soils of Pitt County range from nearly level to sloping. The Aycock, Norfolk, and other soils that have smooth slopes and are on uplands have a thicker solum than other soils. In the more sloping soils on uplands that break sharply to draws, geologic removal of soil material is more rapid than in nearly level areas. The Craven soils and other soils in such areas have a thinner solum than do the Aycock and Norfolk soils.

Relief largely governs natural drainage. As an example, such soils as the Byars, Pantego, and Portsmouth occur in depressions where water stands for a significant length of time. These soils are very poorly drained. They have a dark-colored surface layer.

Time

The length of time required for development of a soil depends on the other factors of soil formation. In a humid, warm region where the cover of plants is dense, less time is required than in a dry, cold region where the cover of plants is sparse. Where the environment is the same, less time is required for a soil to develop from coarse-textured material than from similar, but finer textured, material.

Soils vary considerably in age. Old soils generally have better defined horizons than young soils. In Pitt County, for example, the Norfolk, Aycock, and other old soils on the smoother, nearly level upland divides have well-defined horizons. In contrast, the Bibb soils and other young soils formed in alluvium have only poorly defined horizons. The soil material in which these young soils formed has not been in place long enough for well-defined horizons to have developed.

Classification of the Soils

Classification consists of an orderly grouping of soils according to a system designed to make it easier to remember soil characteristics and interrelationships. Classification is useful in organizing and applying the results of experience and research. Soils are placed in narrow classes for discussion in detailed soil surveys and for application of knowledge within farms and fields. The many thousands of narrow classes are then grouped into progressively fewer and broader classes in successively higher categories, so that information can be applied to large geographic areas.

Two systems of classifying soils have been used in the United States in recent years. The older system was adopted in 1938 (*2*) and was revised later (*6*). The system currently used by the National Cooperative Soil Survey was developed in the early sixties and was adopted in 1965 (*9*). It is under continual study (*5, 9*).

The current system of classification has six categories. Beginning with the most inclusive, these categories are the order, the suborder, the great group, the subgroup, the family, and the series. The criteria for classification are soil properties that are observable or measurable, but the properties are selected so that soils of similar genesis are grouped together. The placement of some soil series in the current system of classification, particularly in families, may change as more precise information becomes available.

Table 8 shows the classification of each soil series in Pitt County by family, subgroup, and order, according to the current system. The placement of soil series in table 8 has been updated to July 1970.

General Nature of the County

This section gives general facts about Pitt County. It describes physiography, relief, drainage, water supply, and climate. It also briefly discusses industry and transportation, cultural facilities, and farming.

Pitt County was created by the passage of a bill in the Assembly on November 25, 1790.[7] The county seat, Greenville, was first named Martinsborough and was located about 3 miles from its present site. In 1786, the town was named Greenville in honor of General Nathaniel Greene. In that year the Pitt Academy was established.

For many years the Tar River was used as the "Main Street" of the county. In colonial days that river was used to float cargo from inland and river plantations downstream to Washington. Flatboats were generally used for

[7] Facts about history of Pitt County were contributed by JOHN DUNCAN, freelance historian.

TABLE 8. *Soil series classified by higher categories of the current system*

Series	Family	Subgroup	Order
Alaga	Siliceous, thermic, coated	Typic Quartzipsamments	Entisols.
Altavista	Fine-loamy, mixed, thermic	Aquic Hapludults	Ultisols.
Aycock [1]	Fine-silty, siliceous, thermic	Typic Paleudults	Ultisols.
Bibb	Coarse-loamy, siliceous, acid, thermic	Typic Haplaquents	Entisols.
Bladen	Clayey, mixed, thermic	Typic Albaquults	Ultisols.
Byars	Clayey, kaolinitic, thermic	Umbric Paleaquults	Ultisols.
Cape Fear	Clayey, mixed, kaolinitic, thermic	Typic Umbraquults	Ultisols.
Chipley	Siliceous, thermic, coated	Aquic Quartzipsamments	Entisols.
Coxville	Clayey, kaolinitic, thermic	Typic Paleaquults	Ultisols.
Craven	Clayey, mixed, thermic	Aquic Hapludults	Ultisols.
Exum	Fine-silty, siliceous, thermic	Aquic Paleudults	Ultisols.
Goldsboro	Fine-loamy, siliceous, thermic	Aquic Paleudults	Ultisols.
Lakeland	Siliceous, thermic, coated	Typic Quartzipsamments	Entisols.
Leaf	Clayey, mixed, thermic	Typic Algaquults	Ultisols.
Lenoir, thin solum variant	Clayey, mixed, thermic	Aeric Ochraquults	Ultisols.
Lenoir	Clayey, mixed, thermic	Aeric Paleaquults	Ultisols.
Lynchburg	Fine-loamy, siliceous, thermic	Aeric Paleaquults	Ultisols.
Masada	Fine-loamy, mixed, thermic	Typic Hapludults	Ultisols.
Nahunta	Fine-silty, siliceous, thermic	Aeric Paleaquults	Ultisols.
Norfolk	Fine-loamy, siliceous, thermic	Typic Paleudults	Ultisols.
Ocilla	Loamy, siliceous, thermic	Aquic Arenic Paleudults	Ultisols.
Olustee, sandy subsoil variant [2]	Sandy, siliceous, thermic	Typic Haplaquods	Spodosols.
Osier	Siliceous, thermic	Typic Psammaquents	Entisols.
Pactolus	Siliceous, thermic, coated	Aquic Quartzipsamments	Entisols.
Pantego	Fine-loamy, siliceous, thermic	Umbric Paleaquults	Ultisols.
Portsmouth	Fine-loamy, siliceous, thermic	Typic Umbraquults	Ultisols.
Rains	Fine-loamy, siliceous, thermic	Typic Paleaquults	Ultisols.
Roanoke	Clayey, mixed, thermic	Typic Ochraquults	Ultisols.
Tuckerman	Fine-loamy, mixed, thermic	Typic Ochraqualfs	Alfisols.
Wagram	Loamy, siliceous, thermic	Arenic Paleudults	Ultisols.
Wickham	Fine-loamy, mixed, thermic	Typic Hapludults	Ultisols.

[1] Taxadjuncts to the Aycock series because the content of silt and very fine sand is lower than required for the Aycock series.
[2] Variants of the Olustee series because the Bt horizon underlying the Bh horizon is absent, but otherwise these soils are similar to the Olustee soils.

transporting the cargo, although steamboats were attempted in the 1830's. Use of flatboats continued until 1847, when a regular steamboat route was begun on the Tar River between Washington and Tarboro. Stops were made at Greenville going each way.

Tobacco was mentioned as a crop as early as 1725, but it did not become important as a crop until the latter part of the 1880's. By 1910, tobacco had become an important cash crop, and it has continued to be an important source of farm income.

Physiography, Relief, and Drainage

Pitt County is in the Coastal Plain physiographic province. The soils formed in unconsolidated sand, silt, and clay deposited by water. They are nearly level to sloping. Except on breaks along the south side of the Tar River and its tributaries, slopes generally do not exceed 4 percent. The terrain of the county slopes toward the east and southeast. Elevations range from near sea level in the eastern and southeastern parts of the county to about 124 feet in the western part near Farmville.

In all parts of the county, streams are abundant enough to provide good drainage. The Tar River and its main tributaries drain all of the northern and most of the central parts of the county. Contentnea, Little Contentnea, Swift, Clayroot Swamp, and Creeping Swamp Creeks drain most of the southern and southwestern parts. All of these creeks flow into the Neuse River.

Water Supply

The supply of water, both from surface streams and ground water, is abundant in this county (*3*). A considerable number of artificial lakes are at the higher elevations, and dug ponds are at the lower elevations. These lakes and ponds are used mostly as sources of water for irrigation, for recreation, and for supplying water to livestock.

Supplies of water for public and private uses are generally obtained from wells. For many years the supply of water for the municipality of Greenville was obtained only from the Tar River. This supply is now supplemented by supplies obtained from ground water. Deep gravel-wall wells in the Black Creek Formation are capable of producing 400 to 1,000 gallons per minute for the municipality of Greenville.

The water table fluctuates seasonally in response to variations in the amount of precipitation and in the degree of evapotranspiration The water table is highest late in winter and early in spring, and it is lowest late in summer and early in fall. When it is at its lowest level, the water table is generally at a depth of 15 to 20 feet beneath the surface. In interstream areas, wells that are drilled to a depth of 50 feet or more are under artesian

pressure. Water normally rises in these wells to within 30 feet of the surface.

The chemical quality of the water in aquifers in Pitt County is not uniform. Water from shallow aquifers is generally slightly corrosive. Some of it contains an objectionable amount of iron, but it is otherwise acceptable. Most water from deep artesian wells contains sodium bicarbonate and is soft. Water obtained from aquifers in impure limestone is moderately hard, but it is otherwise of good quality.

Climate [8]

The climate of Pitt County is influenced by elevation, by distances from the Atlantic Ocean and Pamlico Sound, and by latitude and location of the county in the continent. The climate is also influenced, to some extent, by the Tar River, which flows southeastward through the northern third of the county. Throughout the county, differences in elevation are not great. Elevations are lowest along the river, where the soils are nearly level. They are highest in areas of gently rolling and sloping soils farther back from the river. Temperature and precipitation data obtained from observations at Greenville, near the center of the county, are representative of the climate in Pitt County.

In the more than 50 years during which records have been kept at Greenville, the lowest temperature ever recorded there was zero, and the highest was 106° F. The temperature reaches 100° at least once in about half the summers, and it reaches 90° or higher on about half the days in an average summer. Table 9 gives temperature and precipitation data for Pitt County.

The average length of the freeze-free growing period is about 220 days. This period generally lasts from late in March until early in November. Table 10 shows the probability of freezes of various intensities occurring in spring and in fall.

Thunderstorms account for a large part of the rainfall received during the growing season. Precipitation during the growing season is variable from year to year, from month to month, and even from place to place within the county. In some years local areas may be without a significant amount of rainfall for periods of 5 to 20 days. During these dry spells, irrigation can be a worthwhile aid to growing crops. The amount of rainfall is frequently increased in autumn and occasionally in summer by the passage of a tropical storm over the county.

Rainfall in winter is usually associated with large low-pressure storms passing over the eastern part of the United States or over the Atlantic Ocean. It is less variable than rainfall in summer. Short periods without a significant amount of rainfall are less important in winter than in summer because evaporation and transpiration are lower.

Some snow or sleet occurs almost every winter, but accumulations are generally small, and they melt in a few hours. The blanketing effect of a layer of snow that lasts for several days is extremely rare. About once in 10 years, on the average, as much as 10 inches of snow accumulates. In about one-third of these occurrences, snow remains on the ground for a week or more.

[8] By A. V. Hardy, climatologist for North Carolina, National Weather Service, U.S. Department of Commerce.

TABLE 9.—*Temperature and precipitation*

[All data except soil temperatures were obtained from records at Greenville]

Month	Temperature				Precipitation					Average soil temperature at depth of 4 inches in an area of bare soil
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—		Days with 1 inch or more snow cover	Average depth of snow on days with snow cover	
			Maximum temperature equal to or higher than—	Minimum temperature equal to or lower than—		Less than—	More than—			
	°F.	°F.	°F.	°F.	In.	In.	In.	No.	In.	°F.
January	55	33	72	15	3.3	1.5	6.4	2	1	44
February	57	34	74	18	3.4	1.1	5.4	1	2	45
March	64	40	84	22	3.6	2.1	5.5	(1)	2	52
April	74	48	88	32	3.5	1.2	6.5	0	0	62
May	82	58	94	43	3.4	1.0	5.6	0	0	72
June	88	65	97	54	4.1	1.6	7.0	0	0	79
July	91	69	98	61	6.8	2.0	14.0	0	0	81
August	90	68	97	59	5.6	1.9	10.6	0	0	80
September	85	63	95	48	4.8	.9	9.2	0	0	75
October	75	50	88	34	2.8	.6	7.6	0	0	66
November	65	40	79	25	3.0	.7	6.6	0	0	55
December	56	33	72	15	3.3	1.2	5.7	(1)	1	46
Year	73	50	[2] 100	[3] 12	47.5	36.7	56.0	4	2	63

[1] Less than one-half day.
[2] Average annual highest temperature.
[3] Average annual lowest temperature.

TABLE 10.—*Probabilities of last freezing temperatures in spring and first in fall*

[All data from records obtained at Greenville]

Probability	Dates for given probability and temperature				
	16° F. or lower	20° F. or lower	24° F. or lower	28° F. or lower	32° F. or lower
Spring:					
1 year in 10 later than	February 28	March 11	March 23	April 6	April 16
2 years in 10 later than	February 15	February 28	March 14	March 29	April 9
5 years in 10 later than	January 25	February 12	February 25	March 15	March 26
Fall:					
1 year in 10 earlier than	November 9	November 23	November 10	October 30	October 19
2 years in 10 earlier than	December 13	November 29	November 16	November 5	October 26
5 years in 10 earlier than	December 24	December 10	November 27	November 16	November 5

. Cloudiness is variable. The sun shines, on the average, more than half the total number of daylight hours in winter and nearly two-thirds of the total number of daylight hours in other seasons. The average relative humidity is about 85 percent at sunrise, and it drops to about 50 percent by midafternoon.

Tropical storms only occasionally retain destructive force when they move inland as far as Pitt County. Highest winds more often result from thunderstorms in summer than from tropical storms. Such winds are local and are of brief duration. Direction of surface winds is variable in all seasons, but the direction of prevailing winds is from the southwest. In autumn, however, northeasterly winds are a close second. The average surface windspeed is about 8 miles per hour.

Industry and Transportation

In 1967, 75 industrial plants were located in Pitt County. In that year industries provided employment to about 4,200 persons. Tobacco, wearing apparel, lumber, plastics, and processed foods were among the products manufactured.[9]

Public transportation in the county is provided by railroads, buslines, and numerous interstate and intrastate trucking lines. In addition, a municipal airport serves the county.

Cultural Facilities

Among the cultural, recreational, educational, and religious facilities in the county are many civic clubs, an active wildlife club, several golf courses and country clubs, a riding academy, more than 100 churches, and numerous Home Demonstration and 4-H clubs. The Greenville Art Center, the summer and winter playhouses, and the theater at East Carolina University, and the educational courses available at that school and at Pitt Technical Institute all enhance the cultural development of the county. Clinics and rehabilitation facilities are available for health care.

[9] Facts about industrial development were supplied by the East Carolina University Regional Development Institute, East Carolina University, Greenville, N. C.

Farming

The growing season in Pitt County is long enough that tobacco, peanuts, corn, soybeans, cotton, cucumbers, and sweetpotatoes have time to mature. In 1969, income from sales of tobacco accounted for about 78 percent of all the income derived from the sale of farm products. Good markets for crops and timber are located within the county. Markets for livestock are located at Kinston, Rocky Mount, Wilson, Tarboro, Bethel, and Greenville.

Acreages of the principal crops harvested in 1969 were as follows (*11*):

	Acres
Tobacco	20,481
Peanuts	7,159
Corn	55,759
Soybeans	21,863
Cotton	1,082
Cucumbers	744

In 1969, a total of 7,848 head of cattle, 51,980 hogs and pigs, and 580,624 hens and pullets of laying age were in the county.

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Glossary

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available water capacity (also termed available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky. When wet, adheres to other material, and tends to stretch somewhat and pull apart, rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft. When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard and brittle; little affected by moistening.

Drainage class (natural). Refers to the conditions of frequency and duration of periods of saturation or partial saturation that existed during the development of the soil, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven different classes of natural soil drainage are recognized.

Excessively drained soils are commonly very porous and rapidly permeable and have a low water-holding capacity.

Somewhat excessively drained soils are also very permeable and are free from mottling throughout their profile.

Well-drained soils are nearly free from mottling and are commonly of intermediate texture.

Moderately well drained soils commonly have a slowly permeable layer in or immediately beneath the solum. They have uniform color in the A and upper part of the B horizons and have mottling in the lower part of the B and the C horizons.

Somewhat poorly drained soils are wet for significant periods but not all the time, and some soils commonly have mottling at a depth below 6 to 16 inches.

Poorly drained soils are wet for long periods and are light gray and generaly mottled from the surface downward, although mottling may be absent or nearly so in some soils.

Very poorly drained soils are wet nearly all the time. They have a dark-gray or black surface layer and are gray or light gray, with or without mottling, in the deeper parts of the profile.

Erosion. The wearing away of the land surface by wind (sandblast), running water, and other geological agents.

Flood plain. Nearly level land, consisting of stream sediments, that borders a stream and is subject to flooding unless protected artificially.

Forest type. A term used to describe stands that are similar in composition and development because of ecological factors. A forest type is temporary if its character has been caused by logging, fire, or other passing influences; it is permanent if no appreciable change is expected and its character is the result of ecological factors alone.

Horizon, soil. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes. These are the major horizons:

O horizon.—The layer of organic matter on the surface of a mineral soil. This layer consists of decaying plant residues.

A horizon.—The mineral horizon at the surface or just below an O horizon. This horizon is the one in which living organisms are most active and therefore is marked by the accumulation of humus. The horizon may have lost one or more of soluble salts, clay, and sesquioxides (iron and aluminum oxides).

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics caused (1) by accumulation of clay, sesquioxides, humus, or some combination of these; (2) by prismatic or blocky structure; (3) by redder or stronger colors than the A horizon; or (4) by some combination of these. Combined A and B horizons are usually called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon. –The weathered rock material immediately beneath the solum. In most soils this material is presumed to be like that from which the overlying horizons were formed. If the material is known to be different from that in the solum, a Roman numeral precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock usually underlies a C horizon but may be immediately beneath an A or B horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Mica. Primary alumino-silicate minerals in which two silica layers alternate with one alumina layer. The layers separately readily into thin sheets or flakes.

Mottling, soil. Irregularly marked with spots of different colors that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are as follows: Abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are these: *fine,* less than 5 millimeters (about 0.2 inch) in diameter along the greatest dimension; *medium,* ranging from 5 millimeters to 15 millimeters (about 0.2 to 0.6 inch) in diameter along the greatest dimension; and *coarse,* more than 15 millimeters (about 0.6 inch) in diameter along the greatest dimension.

Parent material. Disintegrated and partly weathered rock from which soil has formed.

Permeability. The quality that enables the soil to transmit water or air. Terms used to describe permeability are as follows: *very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents that commonly show as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to hardpan or to irregular aggregates upon repeated wetting and drying, or it is the hardened relicts of the soft, red mottles. It is a form of laterite.

Profile, soil. A vertical section of the soil through all its horizons and extending into the parent material.

Reaction soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. An acid, or "sour," soil is one that gives an acid reaction; an

alkaline soil is one that is alkaline in reaction. In words, the degrees of acidity or alkalinity are expressed thus:

	pH		*pH*
Extremely acid	Below 4.5	Mildly alkaline	7.4 to 7.8
Very strongly acid	4.5 to 5.0	Moderately alkaline	7.9 to 8.4
Strongly acid	5.1 to 5.5	Strongly alkaline	8.5 to 9.0
Medium acid	5.6 to 6.0	Very strongly alkaline	9.1 and higher
Slightly acid	6.1 to 6.5		
Neutral	6.6 to 7.3		

Residue, crop. That part of a plant left in the field after harvest: leaves, stubble, roots, straw.

Sand. Individual rock or mineral fragments in a soil that range in diameter from 0.05 to 2.0 millimeters. Most sand grains consist of quartz, but they may be of any mineral composition. The textural class name of any soil that contains 85 percent or more sand and not more than 10 percent clay.

Silt. Individual mineral particles in a soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). Soil of the silt textural class is 80 percent or more silt and less than 12 percent clay.

Solum. The upper part of a soil profile, above the parent material, in which the processes of soil formation are active. The solum in mature soil includes the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and other plant and animal life characteristic of the soil are largely confined to the solum.

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular) and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. Technically, the part of the soil below the solum.

Surface soil. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, about 5 to 8 inches in thickness. The plowed layer.

Terrace (geological). An old alluvial plain, ordinarily flat or undulating, bordering a river, lake, or the sea. Stream terraces are frequently called second bottoms, as contrasted to flood plains, and are seldom subject to overflow. Marine terraces were deposited by the sea and are generally wide.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tilth, soil. The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable, granular structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

Upland (geology). Land consisting of material unworked by water in recent geologic time and lying, in general, at a higher elevation than the alluvial plain or stream terrace. Land above the lowlands along rivers.

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GUIDE TO MAPPING UNITS

For a complete description of a mapping unit, read both the description of the mapping unit and the soil series to which it belongs. A technical description of a profile that is representative of the series is described under the soil series. For complete information about a capability unit, refer to the subsection "Management by Capability Units" beginning on page 34. Other information is given in tables as follows:

Acreage and extent of soils, table 1, p. 5.
Estimated yields, table 2, p. 39.
Woodland suitability, table 3, p. 40.
Suitability of soils for wildlife, table 4, p. 46.
Engineering uses of soils, tables 5, 6, and 7, pp. 48 to 65.

Map symbol	Mapping unit	Described on page	Capability unit		Woodland suitability group
			Symbol	Page	Symbol
AgB	Alaga loamy sand, banded substratum, 0 to 6 percent slopes	6	IIIs-1	37	3s2
AlB	Altavista sandy loam, 0 to 4 percent slopes	7	IIw-2	35	2w8
AyA	Aycock fine sandy loam, 0 to 1 percent slopes	7	I-1	34	2o1
AyB	Aycock fine sandy loam, 1 to 6 percent slopes	8	IIe-1	34	2o1
AyB2	Aycock fine sandy loam, 1 to 6 percent slopes, eroded	8	IIe-1	34	2o1
Bb	Bibb complex	9	IVw-4	38	2w9
Bd	Bladen fine sandy loam	9	IIIw-2	36	2w9
By	Byars loam	10	IIIw-2	36	2w9
Ca	Cape Fear loam	11	IVw-2	37	2w9
Ch	Chipley sand	12	IIIw-1	36	2w2
Co	Coxville fine sandy loam	12	IIIw-2	36	2w9
CrA	Craven fine sandy loam, 0 to 1 percent slopes	13	IIw-1	35	3w2
CrB	Craven fine sandy loam, 1 to 6 percent slopes	13	IIe-3	34	3w2
CrB2	Craven fine sandy loam, 1 to 6 percent slopes, eroded	14	IIe-3	34	3w2
CrC	Craven fine sandy loam, 6 to 10 percent slopes	14	IIIe-2	35	3w2
ExA	Exum fine sandy loam, 0 to 1 percent slopes	15	IIw-1	35	2w8
ExB	Exum fine sandy loam, 1 to 6 percent slopes	15	IIe-2	34	2w8
GoA	Goldsboro sandy loam, 0 to 1 percent slopes	16	IIw-1	35	2w8
GoB	Goldsboro sandy loam, 1 to 6 percent slopes	16	IIe-2	34	2w8
LaB	Lakeland sand, 0 to 6 percent slopes	17	IVs-1	38	4s2
Le	Leaf silt loam	17	IIIw-2	36	2w9
LnA	Lenoir fine sandy loam, thin solum variant, 0 to 3 percent slopes	19	IIIw-4	37	2w8
LoA	Lenoir loam, 0 to 1 percent slopes	18	IIIw 4	37	2w8
Ly	Lynchburg fine sandy loam	20	IIw-2	35	2w8
MaB	Masada sandy loam, 0 to 4 percent slopes	21	IIe-1	34	3o7
Na	Nahunta silt loam	22	IIw-2	35	2w8
NrA	Norfolk sandy loam, 0 to 1 percent slopes	22	I-1	34	2o1
NrB	Norfolk sandy loam, 1 to 6 percent slopes	23	IIe-1	34	2o1
NrB2	Norfolk sandy loam, 1 to 6 percent slopes, eroded	24	IIe-1	34	2o1
OcB	Ocilla loamy fine sand, 0 to 4 percent slopes	24	IIIw-1	36	3w2
Oe	Olustee loamy sand, sandy subsoil variant	25	IVw-1	37	3w2
Os	Osier loamy sand, loamy substratum	26	IVw-1	37	3w3
Pa	Pactolus loamy sand	26	IIIw-1	36	3w2
Pg	Pantego loam	27	IIIw-3	36	1w9
Po	Portsmouth loam	28	IIIw-3	36	1w9
Ra	Rains fine sandy loam	28	IIIw-3	36	2w3
Ro	Roanoke silt loam	29	IVw-2	37	2w9
Sw	Swamp	30	VIIw 1	38	---
Tu	Tuckerman fine sandy loam	30	IVw-4	38	2w9
WaB	Wagram loamy sand, 0 to 6 percent slopes	31	IIs-1	35	3s2
WaC	Wagram loamy sand, 6 to 10 percent slopes	31	IIIe-3	36	3s2
WkB	Wickham sandy loam, 0 to 6 percent slopes	33	IIe-1	34	2o7

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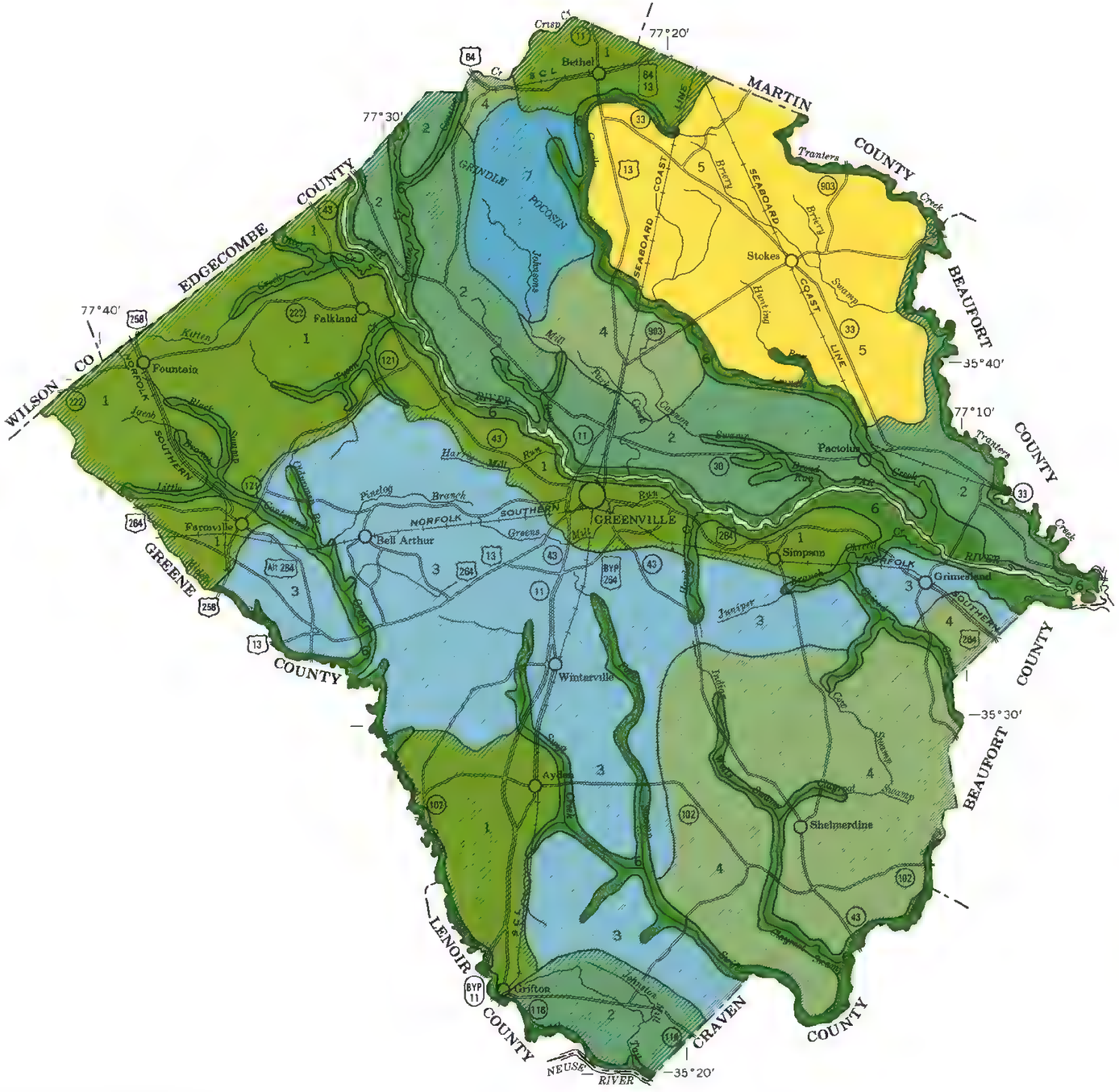

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP

PITT COUNTY, NORTH CAROLINA

Scale 1:253,440
1 0 1 2 3 4 Miles

SOIL ASSOCIATIONS

1. Norfolk-Exum-Goldsboro association: Moderately well drained and well drained soils that have a subsoil of dominantly friable sandy clay loam or clay loam; on uplands
2. Roanoke-Lakeland-Altavista association: Poorly drained to excessively drained soils that have a subsoil of dominantly friable sandy clay loam or very firm clay, or that are underlain by loose sand; on stream terraces and uplands
3. Lynchburg-Rains-Goldsboro association: Moderately well drained to poorly drained soils that have a subsoil of dominantly friable sandy clay loam; on uplands
4. Lenoir-Bladen-Craven association: Moderately well drained to poorly drained soils that have a subsoil of very firm and firm sandy clay to clay; on uplands
5. Coxville-Exum association: Poorly drained and moderately well drained soils that have a subsoil of dominantly firm sandy clay or friable clay loam; on uplands
6. Bibb-Portsmouth association: Poorly drained and very poorly drained soils that are underlain by very friable fine sandy loam, or that have a subsoil of friable sandy loam and sandy clay loam; on flood plains and stream terraces
7. Bladen-Byars association: Poorly drained and very poorly drained soils that have a subsoil of firm and very firm sandy clay to clay; on uplands

Compiled 1973

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

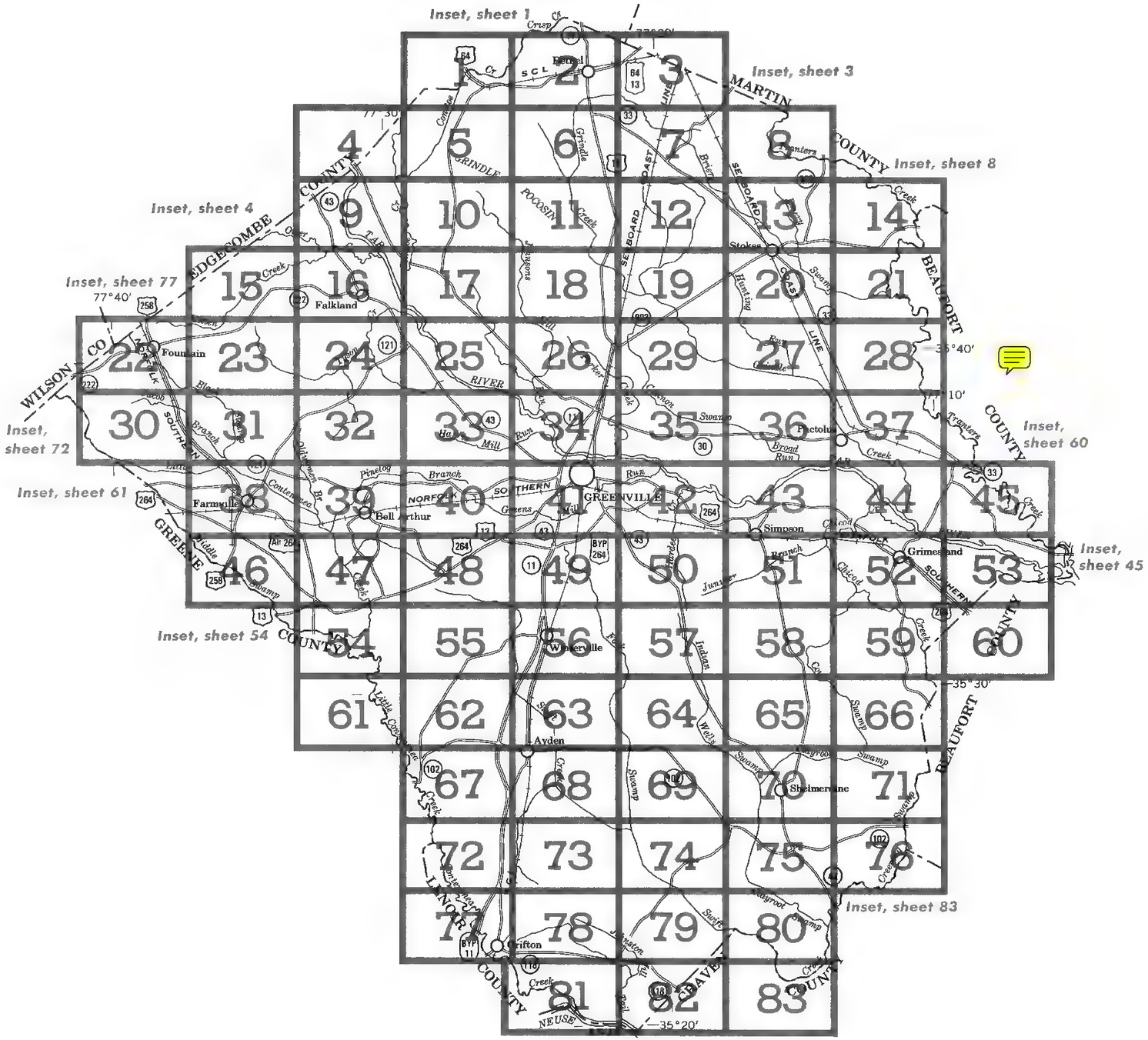
INDEX TO MAP SHEETS

PITT COUNTY, NORTH CAROLINA

Scale 1:253,440

1 0 1 2 3 4 Miles

N



SOIL LEGEND

The first capital letter is the initial one of the soil name. A second capital letter, A, B, or C, indicates the class of slope. Symbols without a slope letter are those of nearly level soils. A final number, 2, in the symbol means that a soil is eroded

SYMBOL	NAME
AgB	Alaga loamy sand, banded substratum, 0 to 6 percent slopes
AlB	Altavista sandy loam, 0 to 4 percent slopes
AyA	Aycock fine sandy loam, 0 to 1 percent slopes
AyB	Aycock fine sandy loam, 1 to 6 percent slopes
AyB2	Aycock fine sandy loam, 1 to 6 percent slopes, eroded
Bb	Bibb complex
Bd	Bladen fine sandy loam
By	Byars loam
Ca	Cape Fear loam
Ch	Chipley sand
Co	Coxville fine sandy loam
CrA	Craven fine sandy loam, 0 to 1 percent slopes
CrB	Craven fine sandy loam, 1 to 6 percent slopes
CrB2	Craven fine sandy loam, 1 to 6 percent slopes, eroded
CrC	Craven fine sandy loam, 6 to 10 percent slopes
ExA	Exum fine sandy loam, 0 to 1 percent slopes
ExB	Exum fine sandy loam, 1 to 6 percent slopes
GoA	Goldsboro sandy loam, 0 to 1 percent slopes
GoB	Goldsboro sandy loam, 1 to 6 percent slopes
LaB	Lakeland sand, 0 to 6 percent slopes
Le	Leaf silt loam
LnA	Lenoir fine sandy loam, thin solum variant, 0 to 3 percent slopes
LoA	Lenoir loam, 0 to 1 percent slopes
Ly	Lynchburg fine sandy loam
MaB	Masada sandy loam, 0 to 4 percent slopes
Na	Nahunta silt loam
NrA	Norfolk sandy loam, 0 to 1 percent slopes
NrB	Norfolk sandy loam, 1 to 6 percent slopes
NrB2	Norfolk sandy loam, 1 to 6 percent slopes, eroded
OcB	Ocilla loamy fine sand, 0 to 4 percent slopes
Oe	Olustee loamy sand, sandy subsoil variant
Os	Osier loamy sand, loamy substratum
Pa	Pactolus loamy sand
Pg	Pantego loam
Po	Portsmouth loam
Ra	Rains fine sandy loam
Ro	Roanoke silt loam
Sw	Swamp
Tu	Tuckerman fine sandy loam
WaB	Wagram loamy sand, 0 to 6 percent slopes
WaC	Wagram loamy sand, 6 to 10 percent slopes
WkB	Wickham sandy loam, 0 to 6 percent slopes

CONVENTIONAL SIGNS

WORKS AND STRUCTURES

Highways and roads

- Divided
- Good motor
- Poor motor
- Trail

Highway markers

- National nterstate
- U. S.
- State or county

Railroads

- Single track
- Multiple track
- Abandoned

Bridges and crossings

- Road
- Trail
- Railroad
- Ferry (FY)
- Ford (FORD)
- Grade
- R. R. over
- R. R. under

- Buildings
- School
- Church
- Mine and quarry
- Gravel pit (G.P.)
- Power line
- Pipeline
- Cemetery
- Dams
- Levee
- Tanks
- Well, oil or gas
- Forest fire or lookout station
- Windmill
- Located object

BOUNDARIES

- National or state
- County
- Minor civil division
- Reservation
- Land grant
- Small park, cemetery, airport
- Land survey division corners

DRAINAGE

Streams, double-line

- Perennial
- Intermittent

Streams, single-line

- Perennial
- Intermittent
  - Crossable with tillage implements
  - Not crossable with tillage implements
  - Unclassified
- Canals and ditches

Lakes and ponds

- Perennial (water, w)
- Intermittent (int)

- Spring
- Marsh or swamp
- Wet spot
- Drainage end or alluvial fan

RELIEF

Escarpments

- Bedrock
- Other
- Short steep slope
- Prominent peak

Depressions

	Large	Small
Crossable with tillage implements		
Not crossable with tillage implements		
Contains water most of the time		

SOIL SURVEY DATA

- Soil boundary and symbol (Dx)
- Gravel
- Stoniness
  - Stony
  - Very stony
- Rock outcrops
- Chert fragments
- Clay spot
- Sand spot
- Gumbo or scabby spot
- Made land
- Severely eroded spot
- Blowout, wind erosion
- Gully
- Soil sample site (S)

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 1

PITT COUNTY, NORTH CAROLINA NO. 1

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

2 450 000 FEET
2 470 000 FEET
763 000 FEET
755 000 FEET
760 000 FEET
2 485 000 FEET
2 465 000 FEET
1 780 000 FEET

3000 AND 5000-FOOT GRID TICKS

(Joins sheet 2)
(Joins sheet 2)
(Joins sheet 5)

EDGECOMBE COUNTY
Crisp Creek
CONETOE CREEK
SEABOARD COAST LINE
64
11

Ro, Co, WaB, ExA, NrA, Po, Le, Bd, AyA, AyB2, Ly, NrB, OcB, CrA, CrB2, LoA, LnA, AlB, AgB, Tu, MaB, Os, Pa, Pg, By, GoB, ExB

1 Mile
5000 Feet
Scale 1:15840

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 10

10

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 5)

(Joins sheet 9)

(Joins sheet 11)

(Joins sheet 17)

2 465 000 FEET

1 730 000 FEET

2 450 000 FEET

725 000 FEET

GRINDLE POCOSIN

GREAT SWAMP

Gum Swamp Church

Hollands

CONETOE CREEK

Protobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO 10

PITT COUNTY, NORTH CAROLINA NO. 11

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 12

12

N

1 Mile 5000 Feet

Scale 1:15840

(Joins sheet 7)

(Joins sheet 11)

(Joins sheet 13)

(Joins sheet 19)

2 505 000 FEET

730 000 FEET

725 000 FEET

2 490 000 FEET

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 12

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 13

PITT COUNTY, NORTH CAROLINA NO. 13

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

2 510 000 FEET

730 000 FEET

(Joins sheet 8)

(Joins sheet 12)

(Joins sheet 14)

(Joins sheet 20)

2 525 000 FEET

720 000 FEET

13

N

1 Mile

5,000 Feet

Scale 1:15 840

SEABOARD COAST LINE

Briery Swamp

Stokes School

Stokes

Congleton

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 14

14

N

(Joins inset sheet 8)

2 545 000 FEET

1 730 000 FEET

Tranters Creek

MARTIN COUNTY

BEAUFORT COUNTY

Tranters Creek

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 13)

1 720 000 FEET

2 530 000 FEET

(Joins sheet 21)

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 14

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 15

PITT COUNTY, NORTH CAROLINA NO 15

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

2 415 000 FEET

720 000 FEET

(Joins inset, sheet 4)

(Joins inset, sheet 77)

(Joins sheet 16)

(Joins sheet 23)

2 425 000 FEET

710 000 FEET

15

N

1 Mile

5 000 Feet

Scale 1:15840

1 0 1 2 3 4 5000

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 16

16

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 9)

(Joins sheet 15)

(Joins sheet 24)

(Joins sheet 17)

1 2445 000 FEET

720 000 FEET

710 000 FEET

2 430 000 FEET

Otter Creek

Kitten Creek

Dupree Crossroads

Falkland

Parker Landing

T A R R I V E R

Tyson Creek

Photobase from 1971 aerial photography. Positions of 5,000 foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 16

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 17

PITT COUNTY, NORTH CAROLINA NO 17

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

2 450 000 FEET

720 000 FEET

(Joins sheet 10)

(Joins sheet 16)

(Joins sheet 18)

(Joins sheet 25)

2 465 000 FEET

710 000 FEET

GRINDLE POCOSIN

Belle Crossroads

Belvoir School

CONETOE CREEK

TAR RIVER

Tyson Creek

17

N

1 Mile

5,000 Feet

Scale 1:15840

18

N

(Joins sheet 11)

2,485,000 FEET

720,000 FEET

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 17)

(Joins sheet 19)

2,470,000 FEET

(Joins sheet 26)

GRINDLE

POCOSIN

Grindle Creek

Run

Johnsons Mill

St Mary Church

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO 18

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 19

2 490 000 FEET

(Joins sheet 12)

720 000 FEET

(Joins sheet 18)

(Joins sheet 20)

(Joins sheet 27)

2 505 000 FEET

1 710 000 FEET

19

N

1 Mile

5000 Feet

Scale 1:15 840

Sweet Gum Grove Church

Grindle Creek

Staton

SEABOARD COAST LINE

PITT COUNTY, NORTH CAROLINA NO 19

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 2

(2)

N

1 Mile

5 000 Feet

Scale 1:15840

(Joins inset, sheet1)

(Joins sheet 1)

(Joins sheet 3)

(Joins sheet 6)

2 485 000 FEET

2 470 000 FEET

755 000 FEET

750 000 FEET

COUNTY LINE

EDGECOMBE

CONETOE CREEK

EDGECOMBE CO

SEABOARD COAST LINE

BETHEL CEMETERY

Bethel

Grindle Creek

water

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 2

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 20

20

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 13)

(Joins sheet 19)

(Joins sheet 21)

(Joins sheet 28)

2 525 000 FEET

720 000 FEET

710 000 FEET

2 510 000 FEET

Stokes School

Stokes

Clemons Grove Church

Briery Swamp Church

Whichard

Briery

Swamp

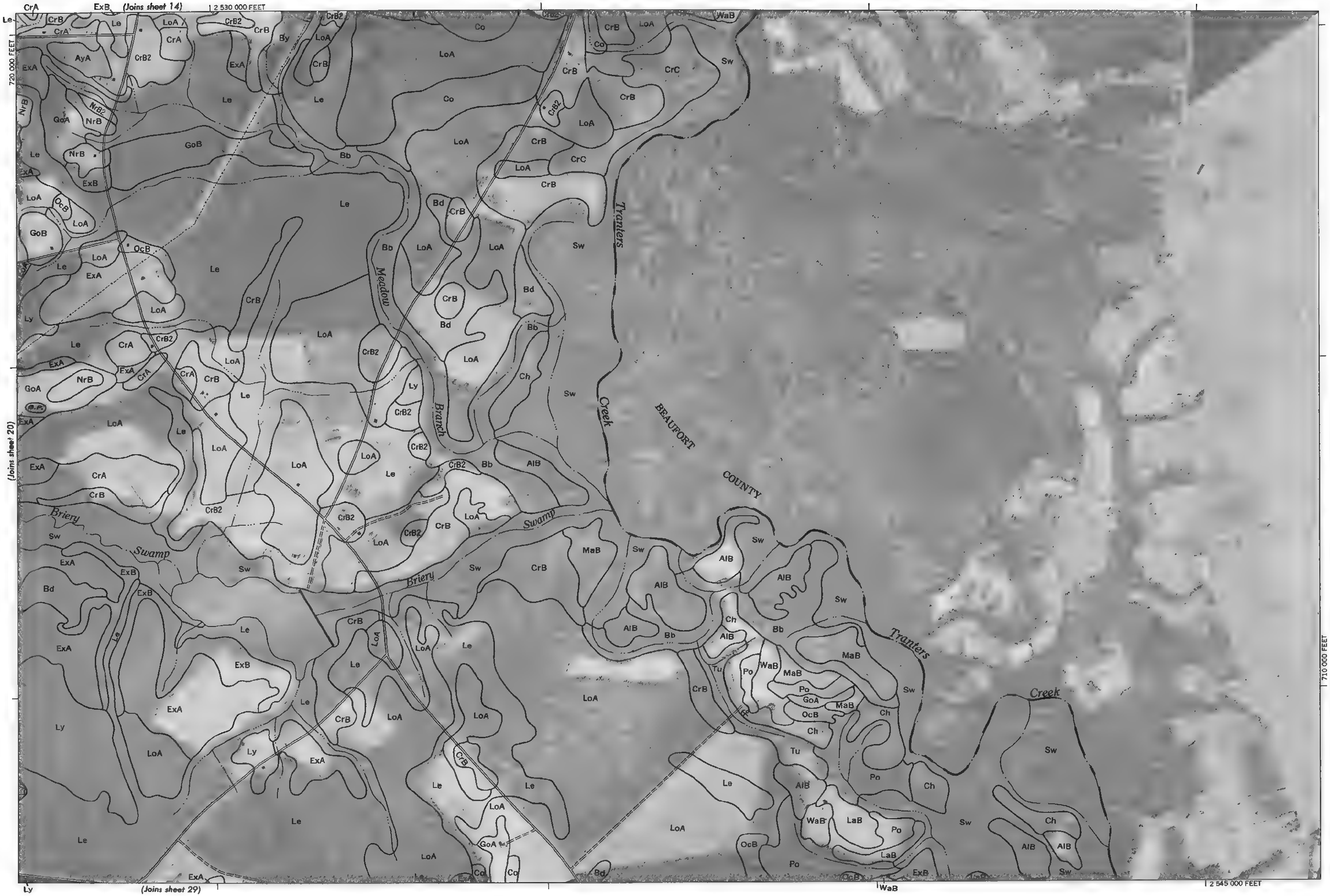
SEABOARD COAST LINE

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO 20

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 21



21

N

1 Mile

5,000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA NO 21

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5 000-foot grid ticks are approximate and based on the North Carolina coordinate system.

22

N

1 Mile
5000 Feet
0
Scale 1:15840

(Joins inset, sheet77)
2 410 000 FEET
1 705 000 FEET
1 695 000 FEET
2 395 000 FEET
(Joins inset, sheet 72)
(Joins sheet 23)
(Joins sheet 30)

EDGECOMBE COUNTY
WILSON COUNTY
NORFOLK SOUTHERN
Fountain
Toddy
St James Church
Ward Run
Black Swamp
Black Swamp

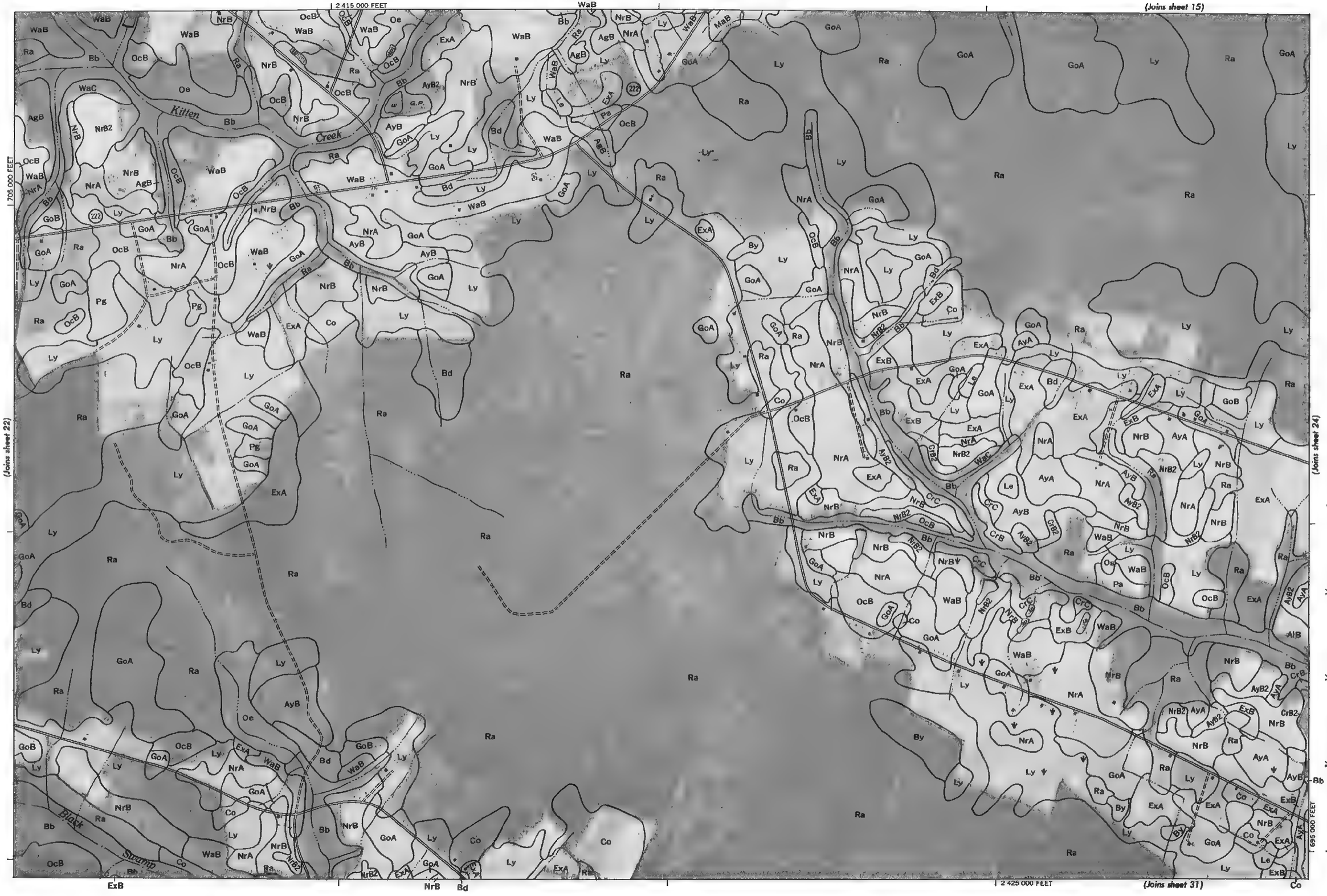
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system
This map is one of a set compiled in 1973 as a part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO 22

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 23

PITT COUNTY, NORTH CAROLINA NO 23

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.



PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 24

24

N

(Joins sheet 16)

2 445 000 FEET

705 000 FEET

(Joins sheet 25)

1 Mile

5 000 Feet

Scale 1:15 840

(Joins sheet 23)

695 000 FEET

2 430 000 FEET

(Joins sheet 32)

Kings Cross Road Church

Kings Cross Road

Bruce-Falkland School

Creek

Tyson

NORTH CAROLINA NO. 24

PITT COUNTY, NORTH CAROLINA

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 25

PITT COUNTY, NORTH CAROLINA NO. 25

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

25

N

Scale 1:15 840

1 Mile

5 000 Feet

2 450 000 FEET

705 000 FEET

695 000 FEET

2 465 000 FEET

(Joins sheet 24)

(Joins sheet 17)

(Joins sheet 26)

(Joins sheet 33)

Center Bluff Landing

Bruce-Falkland School

GRAVEL PIT

TAR RIVER

TAR RIVER

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 26

26

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 18)

(Joins sheet 25)

(Joins sheet 27)

(Joins sheet 34)

2 485 000 FEET

705 000 FEET

685 000 FEET

2 470 000 FEET

Sally Brown School

Mt Pleasant Church

Browns Chapel

Johnsons Mill Run

Parker Creek

COAST LINE

SEABOARD

House

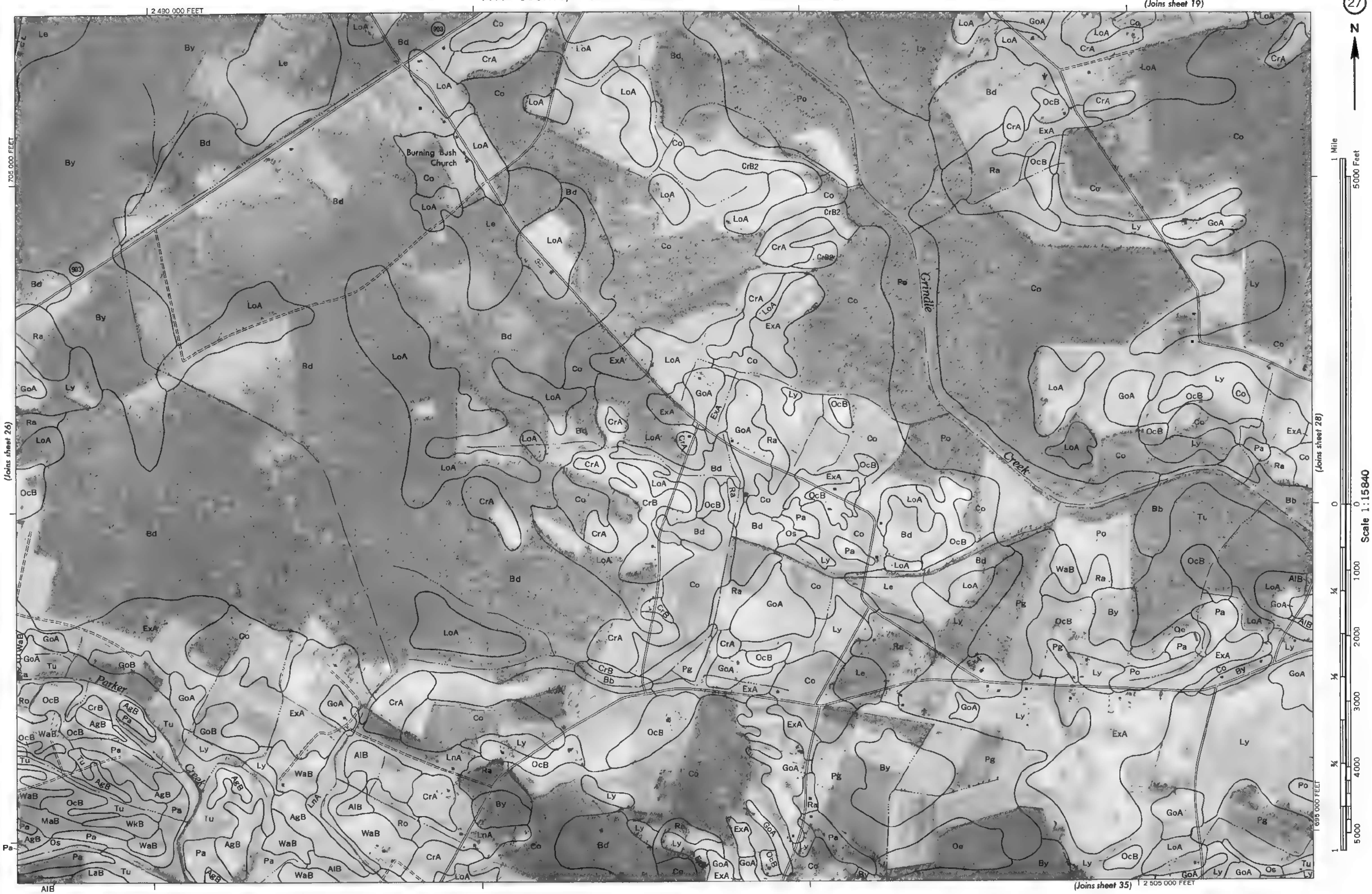
BUS 13

BYP 13

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO 26



PITT COUNTY, NORTH CAROLINA NO 27

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

28

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 20)

(Joins sheet 27)

(Joins sheet 29)

(Joins sheet 36)

2 525 000 FEET

705 000 FEET

695 000 FEET

2 510 000 FEET

Hunting Run

Grindle Creek

SEABOARD COAST LINE

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 28

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 29

29

(Joins sheet 21)

2 530 000 FEET

705 000 FEET

(Joins sheet 28)

(Joins sheet 37)

2 545 000 FEET

695 000 FEET

N

1 Mile

5000 Feet

Scale 1:15840

Tranters Creek

BEAUFORT COUNTY

Tranters Creek

PITT COUNTY, NORTH CAROLINA NO 29

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 3

PITT COUNTY, NORTH CAROLINA NO 3

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

2 490 000 FEET

755 000 FEET

EDGECOMBE COUNTY

MARTIN COUNTY

SEABOARD COAST LINE

Grindle Creek

Flat Swamp Church

(Joins sheet 2)

(Joins lower right)

(Joins sheet 8)

2 510 000 FEET

750 000 FEET

746 000 FEET

2515 000 FEET

4000 AND 5000-FOOT GRID TICKS

(Joins sheet 7)

2 505 000 FEET

(Joins inset)

NrB OcB Co Ra ExB AyB AyA ExA GoA LoA Ly Ch CrB2 WaB Tu Po NrA AyB2 Bd AyA

13 84

N

1 Mile

5000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 30

30

N

(Joins inset, sheet 72)

(Joins sheet 22)

Bb 2 410 000 FEET

695 000 FEET

(Joins sheet 31)

1 Mile

5 000 Feet

Scale 1:15840

685 000 FEET

Run

Ward

Little Contentnea Creek

GREENE COUNTY

Teddy

NORFOLK SOUTHERN

Jacob Branch

(Joins inset, sheet 61)

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO 30

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 31

PITT COUNTY, NORTH CAROLINA NO. 31

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

(Joins sheet 30)

(Joins sheet 23)

(Joins sheet 32)

(Joins sheet 38)

685 000 FEET

2 415 000 FEET

2 425 000 FEET

Scale 1:15840

1 Mile

5 000 Feet

N

31

Black Swamp

Black Swamp

Jacob Branch

Swamp

Contentnea Creek

Oldtownman Branch

NORFOLK SOUTHERN

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 32

32

N

(Joins sheet 24)

2 445 000 FEET

690 000 FEET

685 000 FEET

2 430 000 FEET

(Joins sheet 31)

(Joins sheet 33)

(Joins sheet 39)

Seven Pines Ch.

California

1 Mile

5 000 Feet

Scale 1:15 840

0 1 000 2 000 3 000 4 000 5 000

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

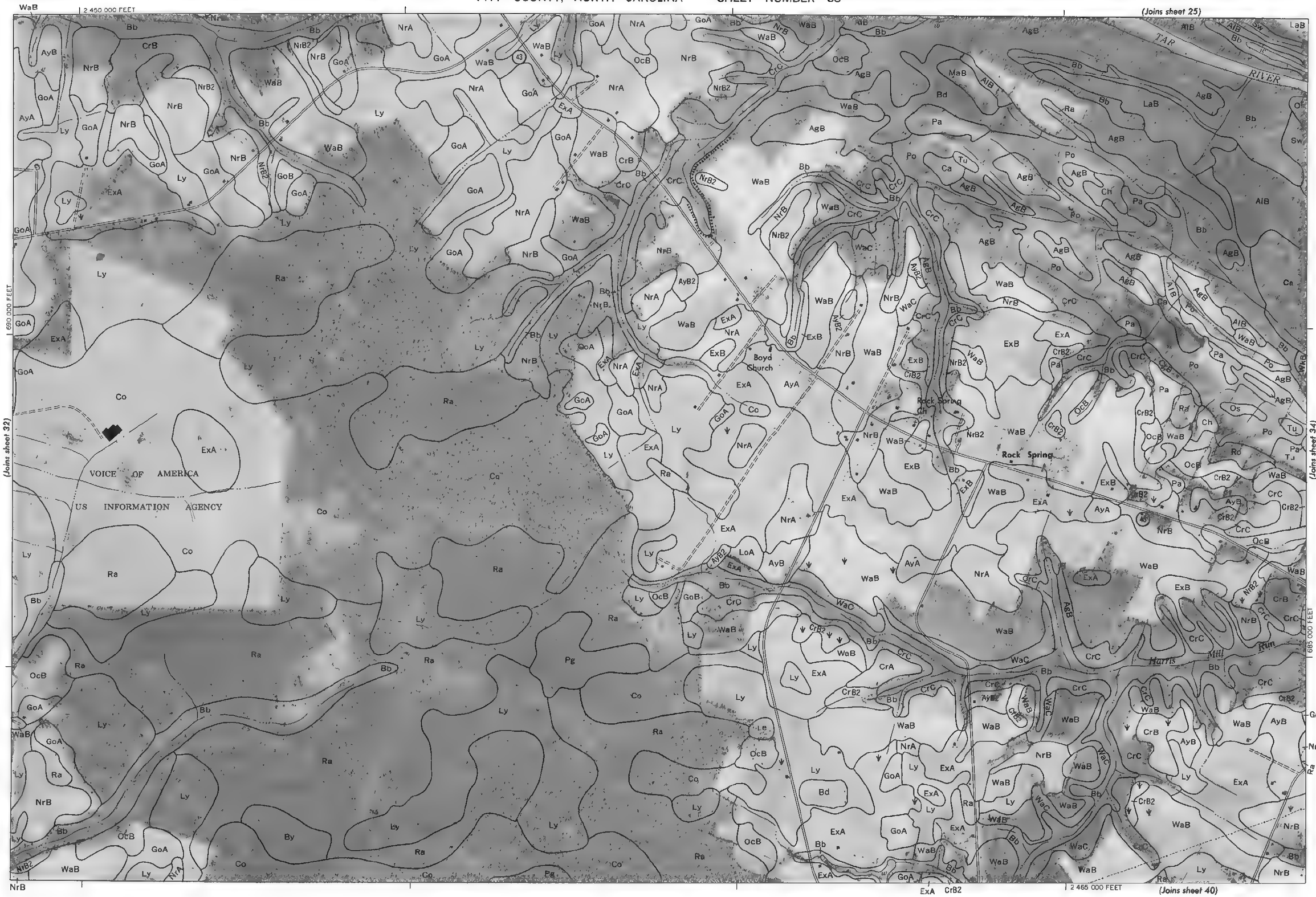
This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 32

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 33

PITT COUNTY, NORTH CAROLINA NO. 33

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system



PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 34

(34)

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 26)

(Joins sheet 13)

(Joins sheet 41)

(Joins sheet 35)

2 485 000 FEET

690 000 FEET

685 000 FEET

2 470 000 FEET

GREENVILLE MUNICIPAL AIRPORT

GREENVILLE
(county seat)

Tar River

Harris Mill Run

Parker Creek

Brown's Old Ferry

Bottoms Mill Run

Gravel Pit

Seaboard Coast Line

Photobase from 1973 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 34

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 35

PITT COUNTY, NORTH CAROLINA NO. 35

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 36

36

N

(Joins sheet 28)

2 525 000 FEET

685 000 FEET

650 000 FEET

(Joins sheet 35)

(Joins sheet 37)

(Joins sheet 43)

2 510 000 FEET

1 Mile

5000 Feet

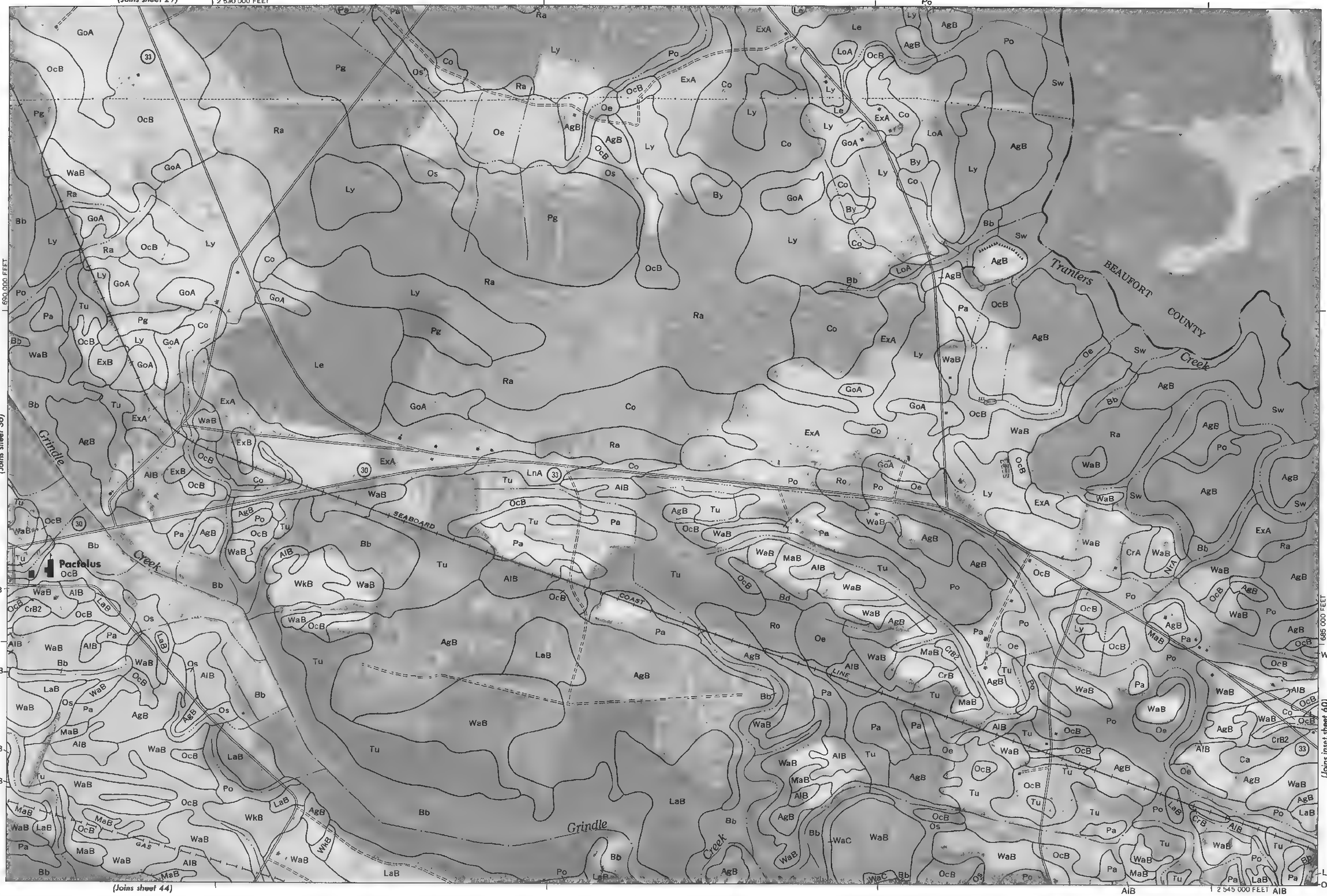
Scale 1:15840

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approx mate and based on the North Carolina coordinate system.

This map is one o' a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY NORTH CAROLINA NO. 36

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 37



PITT COUNTY, NORTH CAROLINA NO 37

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 38

38

N

(Joins sheet 31)

2 425 000 FEET

680 000 FEET

FARMVILLE

Joyners Crossroads

Little Contentnea Creek

Contentnea Creek

Marlboro

NORFOLK SOUTHERN

(Joins inset, sheet 61)

(Joins sheet 39)

2 410 000 FEET

(Joins sheet 46)

670 000 FEET

1 Mile

5000 Feet

Scale 1:15840

0 1000 2000 3000 4000 5000

1/4 1/2 3/4 1

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 38

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 39

PITT COUNTY, NORTH CAROLINA NO 39

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

2 430 000 FEET

680 000 FEET

(Joins sheet 32)

(Joins sheet 38)

(Joins sheet 40)

(Joins sheet 47)

2 445 000 FEET

670 000 FEET

N

39

1 Mile

5000 Feet

Scale 1:15840

Tyson Church

Paul Church

Arthur Chapel

Arthur Church

Bell Arthur

Oldwomen Branch

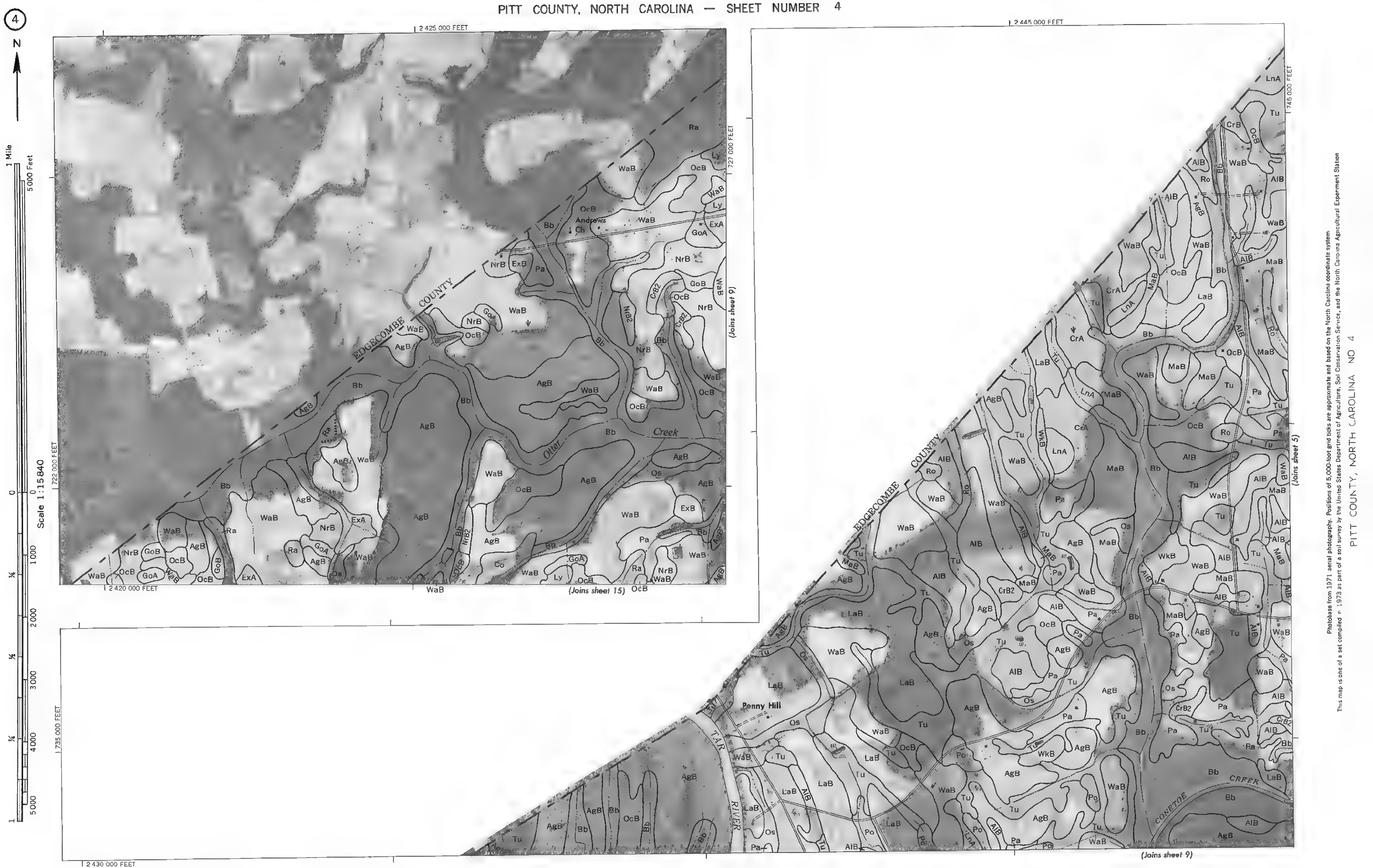
Little Contentnea Creek

Pinelog Branch

SOUTHERN RAILWAY

NORFOLK

ALT 264



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO 4

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 40

(40)

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 33)

(Joins sheet 39)

(Joins sheet 48)

(Joins sheet 41)

2 465 000 FEET

2 450 000 FEET

680 000 FEET

670 000 FEET

SOUTHERN

NORFOLK

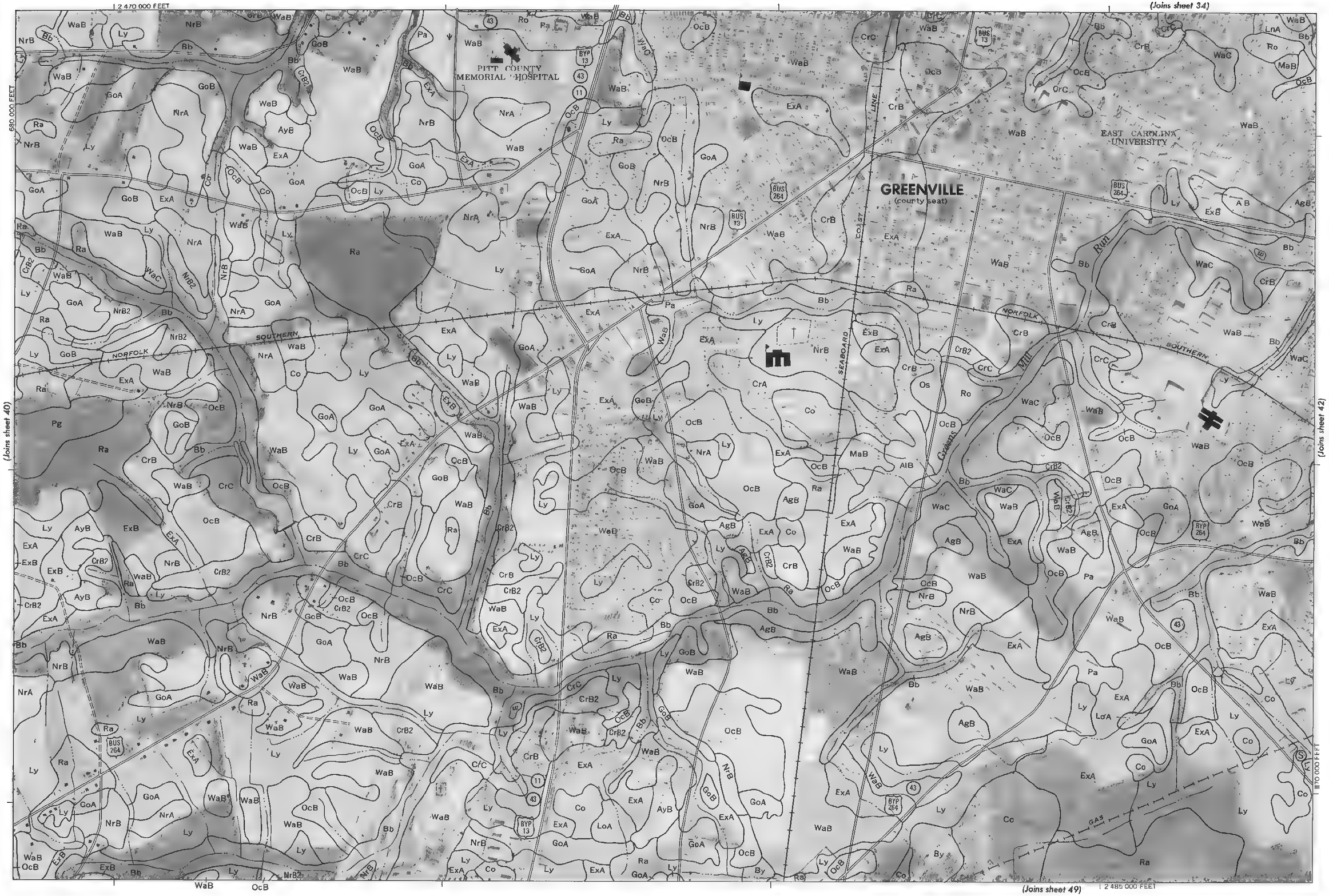
BUS 264

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 40

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 41



PITT COUNTY, NORTH CAROLINA NO 41

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 42

42

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 35)

(Joins sheet 41)

(Joins sheet 43)

(Joins sheet 50)

2 505 000 FEET

1 680 000 FEET

670 000 FEET

2 490 000 FEET

GREENVILLE
(county seat)

GREENWOOD CEMETERY

Redbank Landing

Barber Landing

St Pauls Church

Port Terminal

Greens Mill Run

Harder Creek

Barber Creek

T A R R I V E R

GAS

NORFOLK SOUTHERN

BUS 264

BYP 264

264

43

Photobase from 1971 aerial photography. Positions of 5,000-foot grid lucks are approximate and based on the North Carolina coordinate system

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO 42

PITT COUNTY, NORTH CAROLINA NO. 43

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

44

N

(Joins sheet 37)

(Joins sheet 43)

(Joins sheet 45)

(Joins sheet 52)

2 545 000 FEET

680 000 FEET

670 000 FEET

2 530 000 FEET

1 Mile

5000 Feet

Scale 1:15840

TAR RIVER

Grindle Cr

GRINDLE CREEK

Chicod Creek

TAR RIVER

Chicod CREEK

GAS

GRAVEL PIT

GRAVEL PIT

284

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 44

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

(Joins inset, sheet 60)
(Joins sheet 44)
(Joins sheet 53)
(Joins sheet 53)

2 550 000 FEET
680 000 FEET
2 566 000 FEET
665 000 FEET
2 569 000 FEET
660 000 FEET
2 565 000 FEET
670 000 FEET

BEAUFORT COUNTY
TRANTERS CREEK
SEABOARD COAST LINE
G.P
GAS
Shop Cove
TAR RIVER

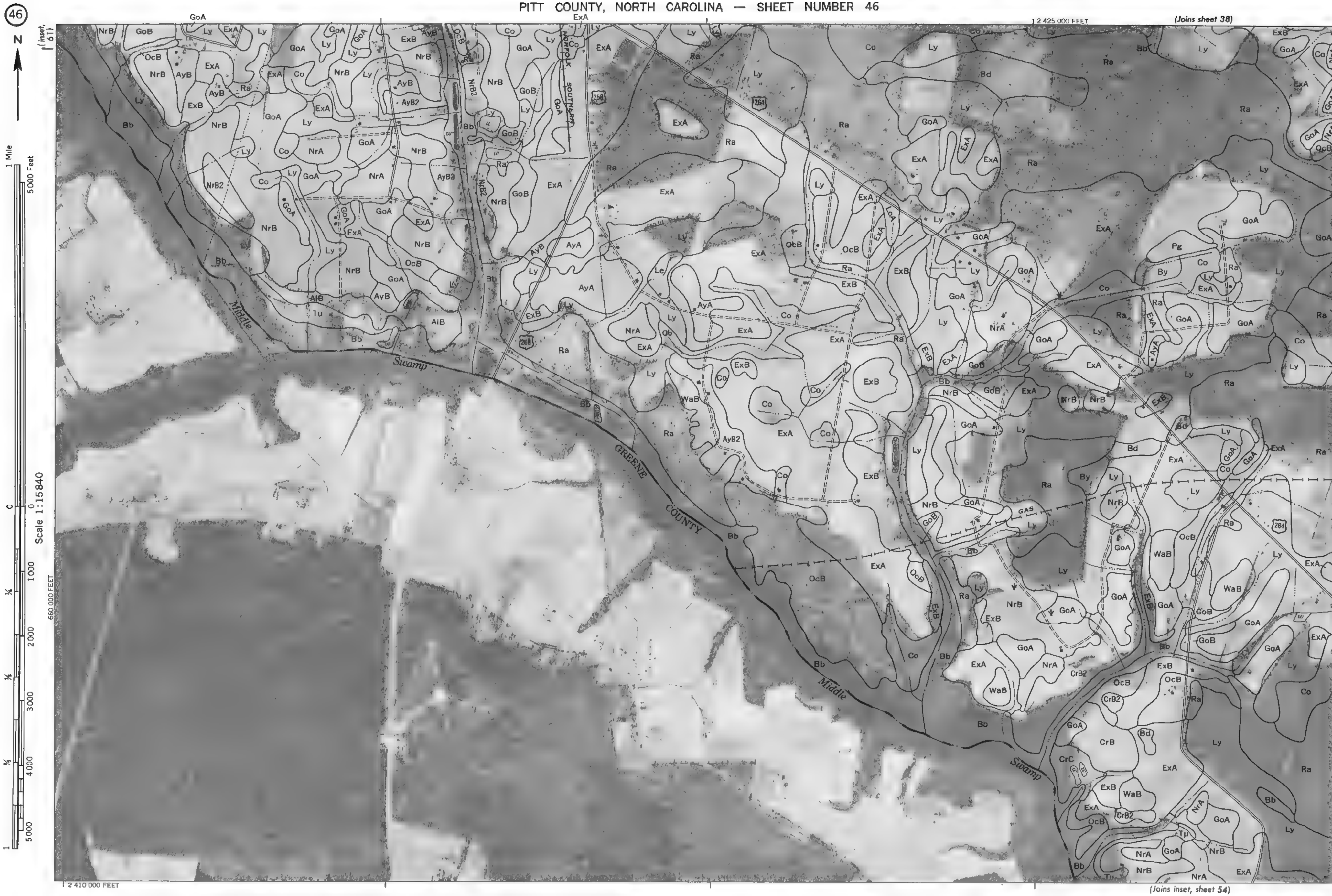
3000 AND 5000-FOOT GRID TICKS

45
N

1 Mile
5000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 46



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.
This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO 46

PITT COUNTY, NORTH CAROLINA NO 47

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 48

48

N

(Joins sheet 40)

2 465 000 FEET

665 000 FEET

660 000 FEET

2 450 000 FEET

(Joins sheet 47)

(Joins sheet 49)

(Joins sheet 55)

1 Mile

5 000 Feet

Scale 1:15840

Frog Level

Piney Grove Church

Warren Ch

GAS

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 48

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 49

PITT COUNTY, NORTH CAROLINA NO. 49

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

2 470 000 FEET

1 665 000 FEET

(Joins sheet 41)

(Joins sheet 48)

(Joins sheet 50)

(Joins sheet 56)

2 485 000 FEET

1 660 000 FEET

Red Oak Church

PITT TECH INSTITUTE

Reedy Branch Church

Cannons Crossroads

COAST LINE

SEABOARD

Fork Swamp

49

N

1 Mile

5 000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 5

PITT COUNTY, NORTH CAROLINA NO 5

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

2 450 000 FEET

1 745 000 FEET

(Joins sheet 1)

(Joins sheet 4)

(Joins sheet 6)

(Joins sheet 10)

2 465 000 FEET

735 000 FEET

GRINDLE

POCOSIN

CONETOE CREEK

Bb CREEK

5

N

1 Mile

5 000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 50

50

N

(Joins sheet 42)

2 505 000 FEET

1 665 000 FEET

(Joins sheet 49)

(Joins sheet 51)

(Joins sheet 57)

2 490 000 FEET

Scale 1:15840

1 Mile 5000 Feet

Bells Fork

Redbank Church

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 50

PITT COUNTY, NORTH CAROLINA NO 51

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 52

52

N

(Joins sheet 44)

2 545 000 FEET

665 000 FEET

(Joins sheet 51)

(Joins sheet 53)

660 000 FEET

2 530 000 FEET

(Joins sheet 59)

1 Mile

5000 Feet

Scale 1:15840

0 1000 2000 3000 4000 5000

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 52

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 53

(Joins sheet 45)

2 550 000 FEET

665 000 FEET

(Joins sheet 52)

(Joins sheet 60)

2 565 000 FEET

660 000 FEET

(Joins inset, sheet 45)

TAR RIVER

TAR RIVER

Grimes Landing

Riverview Church

Marlin Bay

BEAR CREEK

TRANTERS CREEK

BEAUFORT COUNTY

BEAUFORT COUNTY

NORFOLK SOUTHERN

264

N

1 Mile

5000 Feet

Scale 1:15840

0 ¼ ½ ¾ 1

0 1000 2000 3000 4000 5000

PITT COUNTY, NORTH CAROLINA NO 53

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

54

N

1 Mile

5000 Feet

Scale 1:15840

0 ¼ ½ ¾ 1

1000 2000 3000 4000 5000

(Joins inset)

(Joins sheet 47)

(Joins sheet 55)

(Joins sheet 61)

(Joins sheet 46)

(Joins upper left)

2 445 000 FEET

2 429 000 FEET

2 430 000 FEET

2 425 000 FEET

635 000 FEET

656 000 FEET

645 000 FEET

652 000 FEET

3000 AND 4000-FOOT GRID TICKS

Ballards Church

Middle Swamp

Little Contentnea Creek

GREENE COUNTY

Photobase from 1971 aerial photography. Positions of 5,000 foot grid ticks are approximate and based on the North Carolina coordinate system
This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 54

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 55

PITT COUNTY, NORTH CAROLINA NO 55

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 56

56

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 49)

(Joins sheet 55)

(Joins sheet 57)

(Joins sheet 63)

2 485 000 FEET

655 000 FEET

645 000 FEET

2 470 000 FEET

Winterville

Swift Creek

Coast Line

Seaboard

Tar

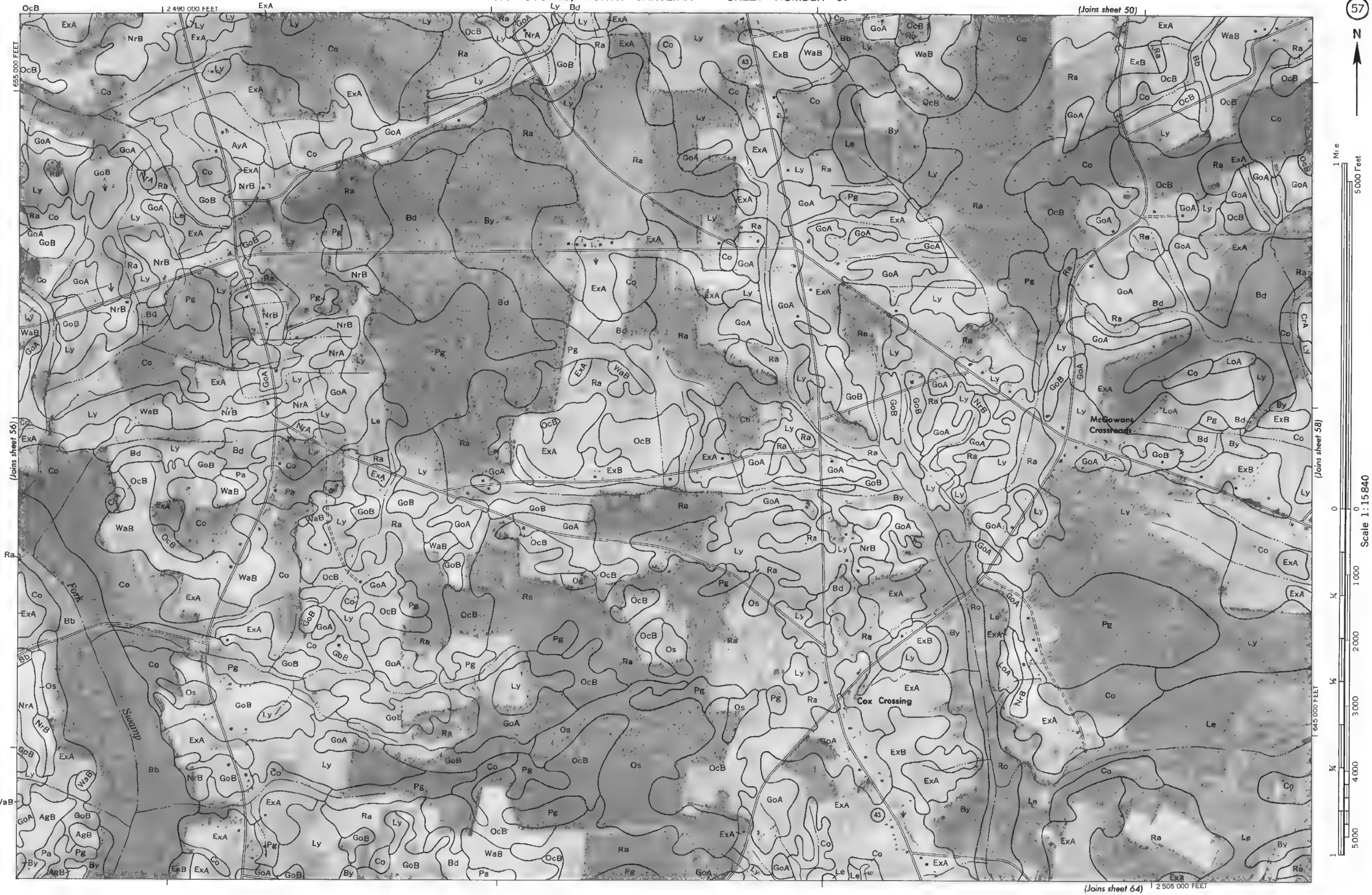
Swamp

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 56

(57)



PITT COUNTY, NORTH CAROLINA NO. 57

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 58

58

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 51)

(Joins sheet 57)

(Joins sheet 59)

(Joins sheet 65)

2 525 000 FEET

2 510 000 FEET

645 000 FEET

655 000 FEET

Hudsons Crossroads

Hopewell Church

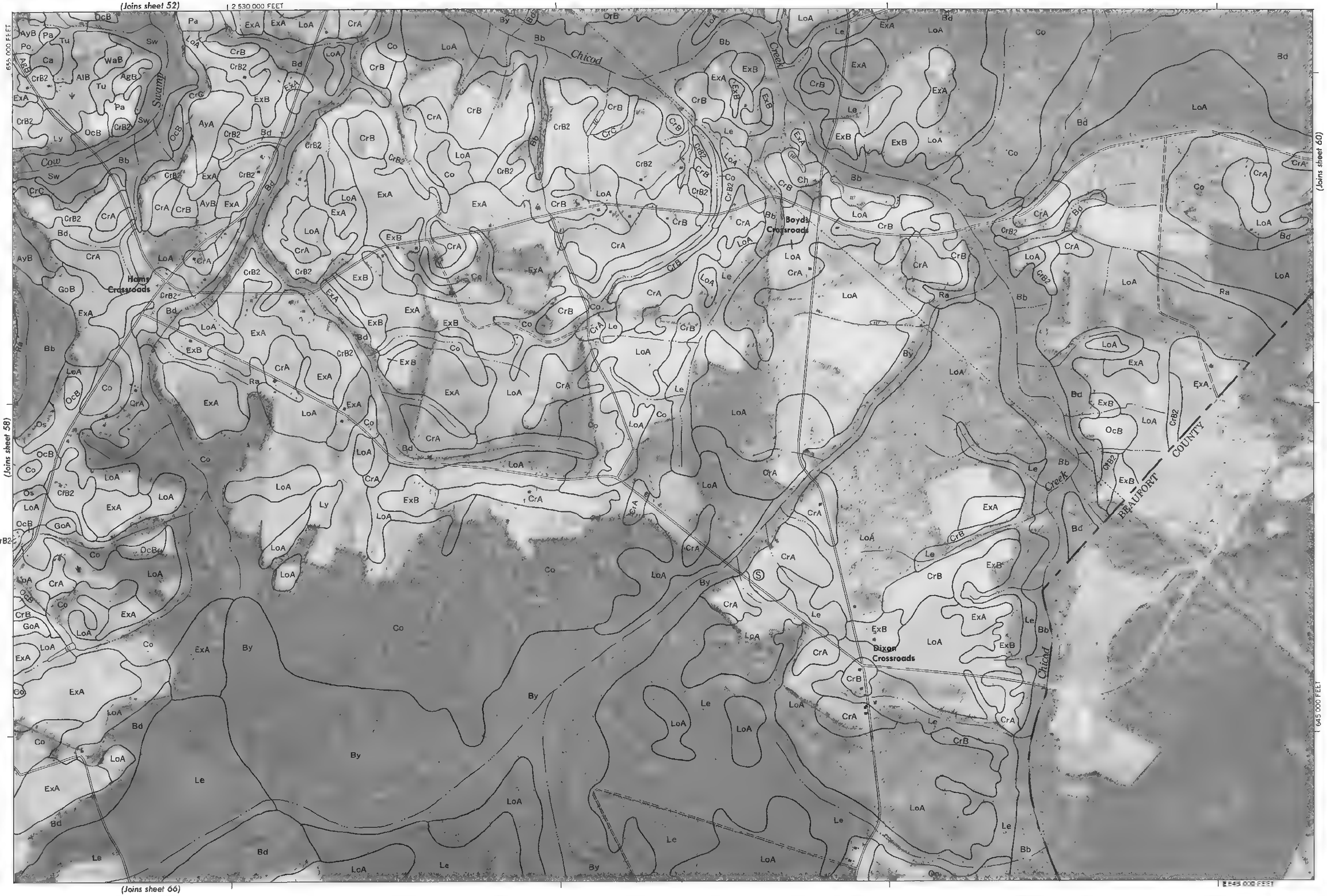
Swamp

Cond

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

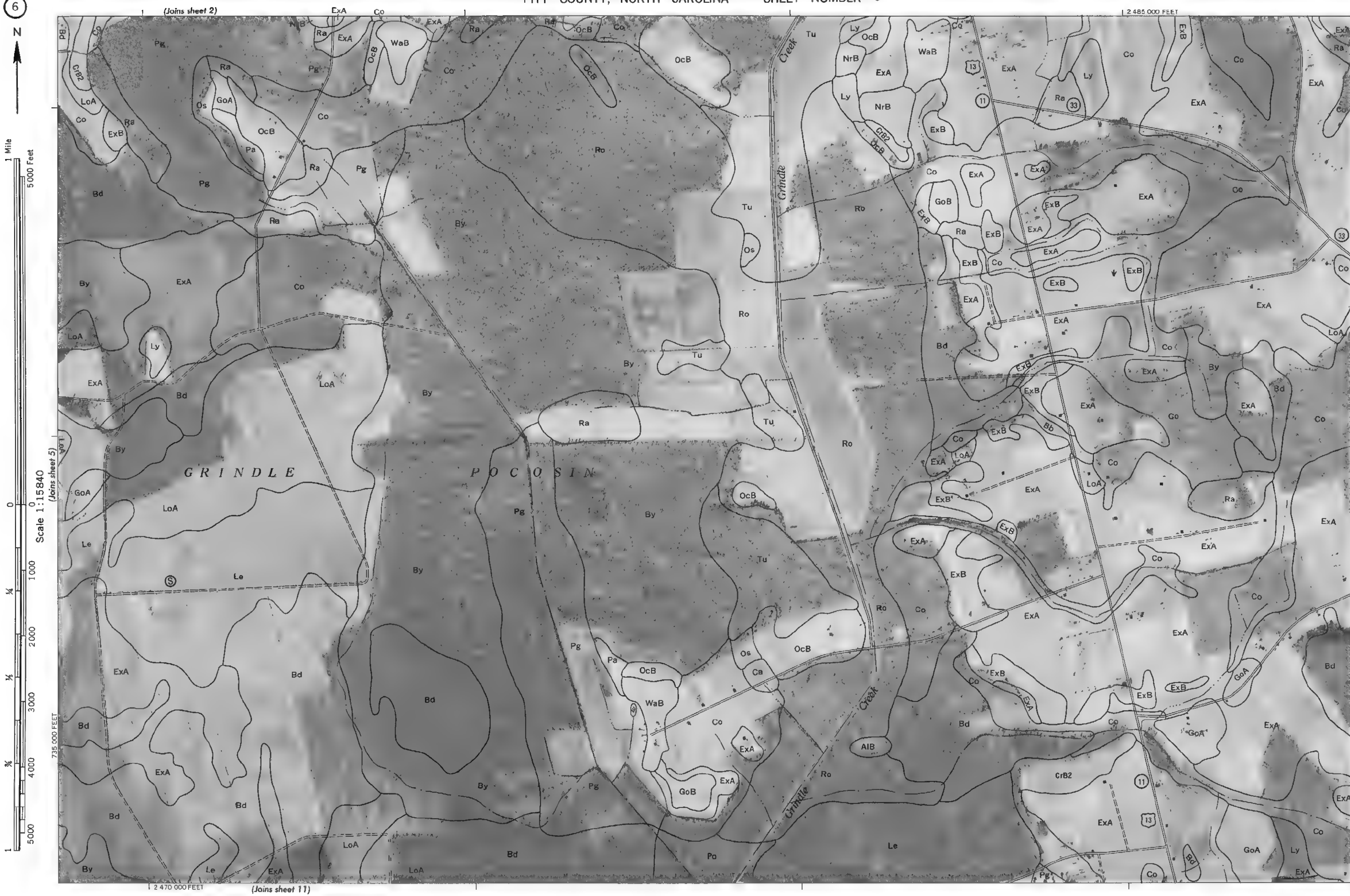
This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO 58



PITT COUNTY, NORTH CAROLINA NO 59

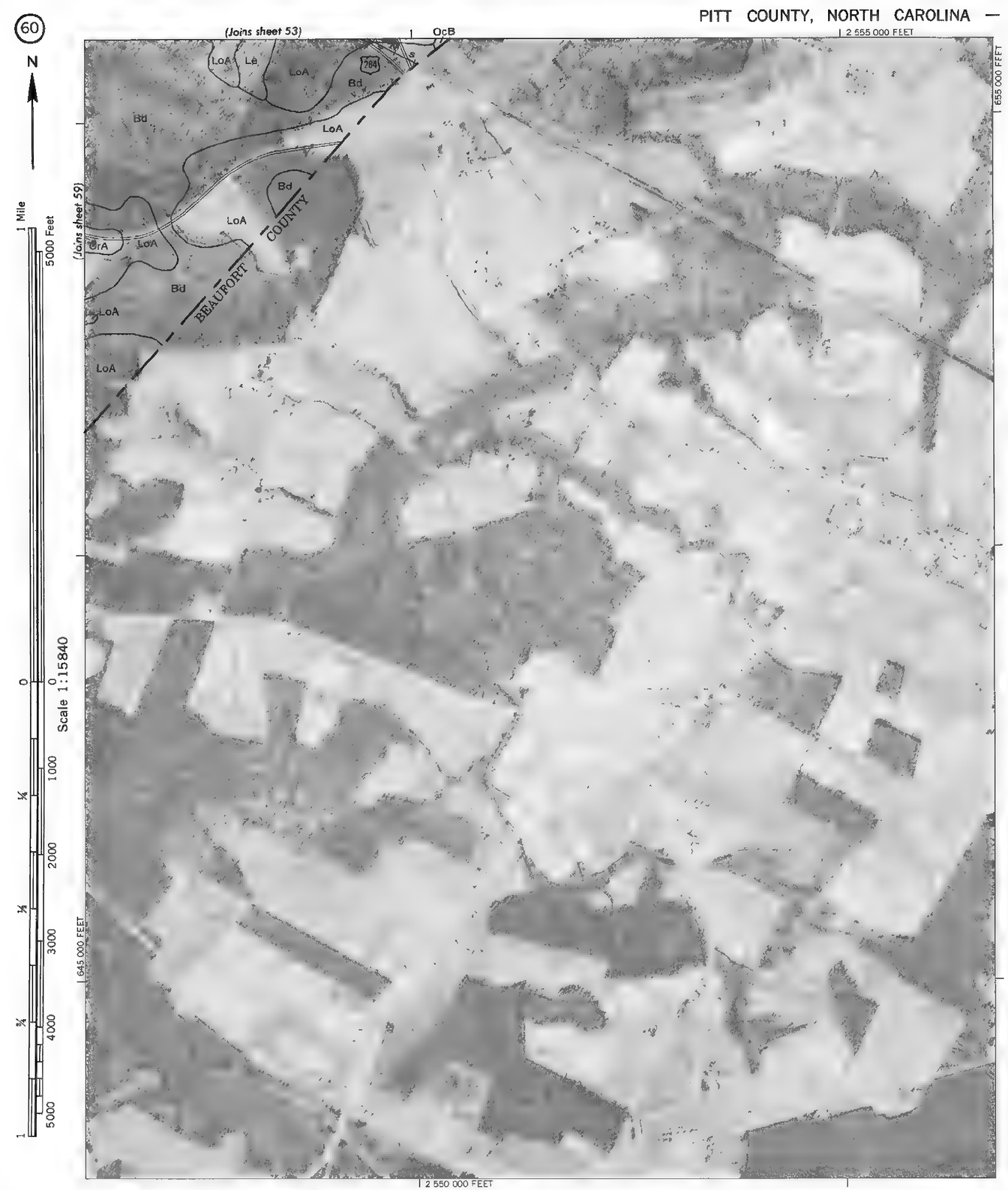
This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

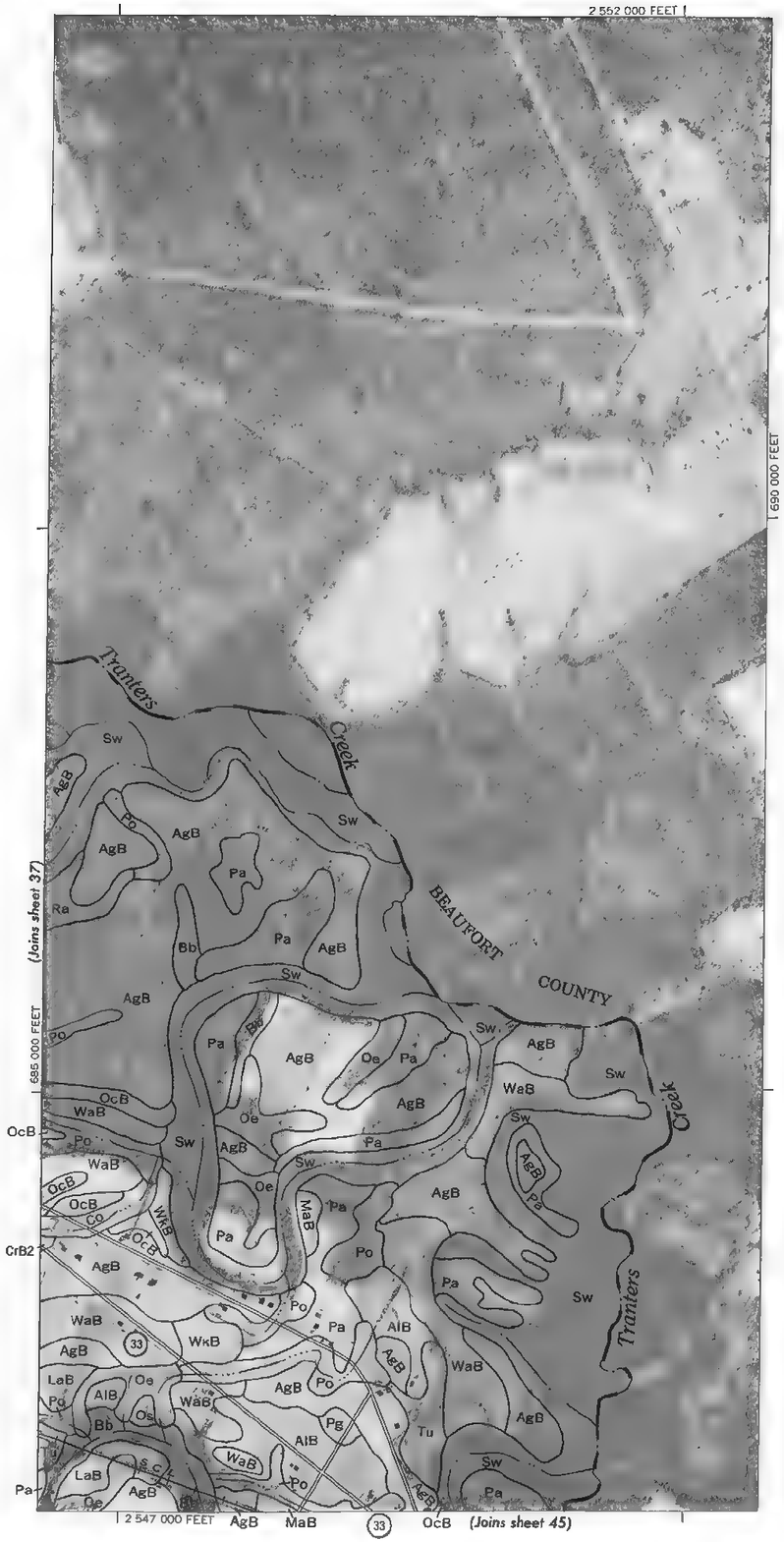


Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO 6

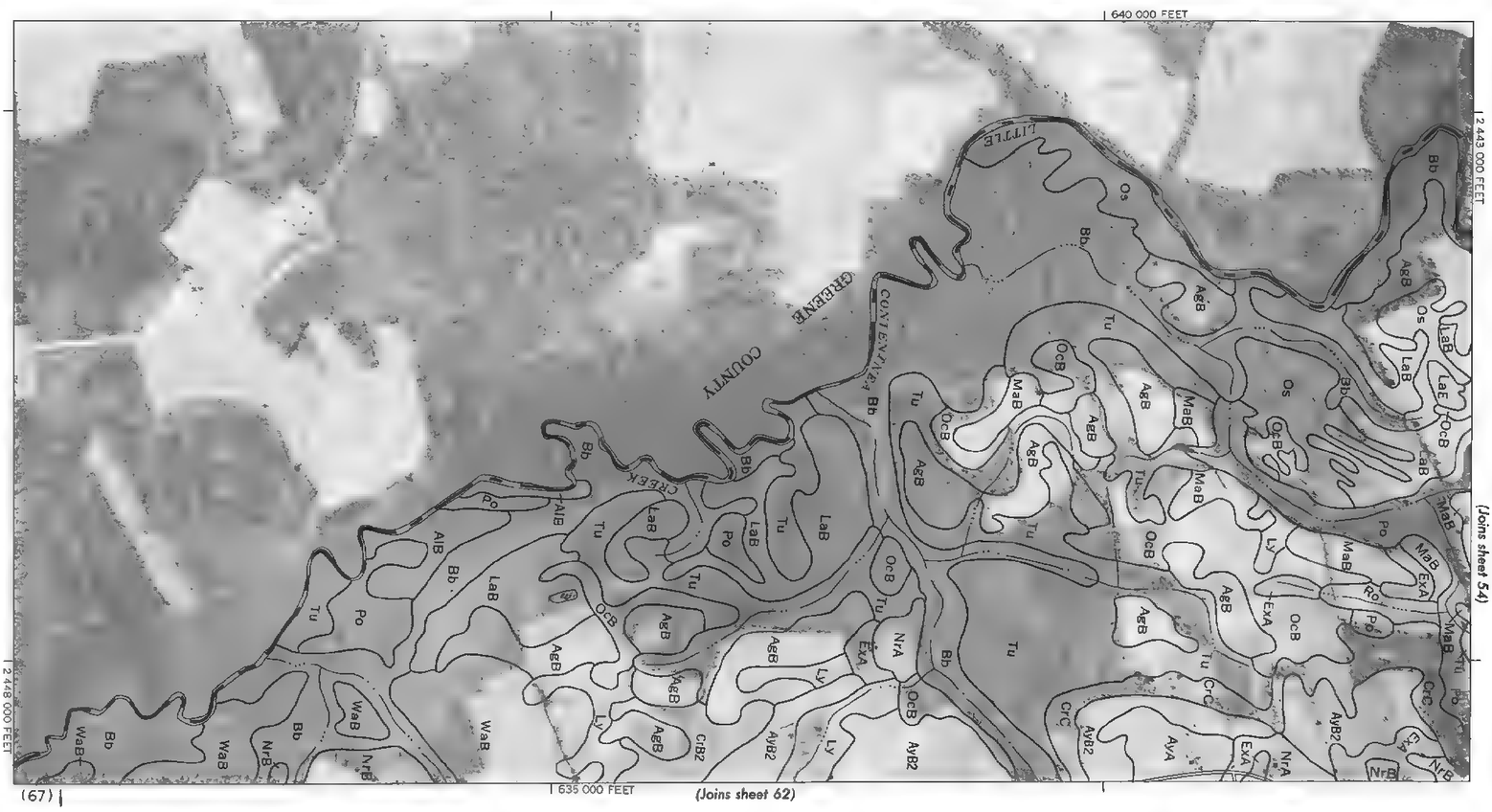




Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carol na coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 60



1 ⅞ ⅛ ¼ 0 1 Mile

5000 4000 3000 2000 1000 0 5000 Feet

Scale 1:15840

N

61

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 62

62

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 55)

(Joins sheet 61)

(Joins sheet 67)

(Joins sheet 63)

2 465 000 FEET

1 640 000 FEET

2 450 000 FEET

635 000 FEET

Bethany Church

Roundtree Church

Ayden Elementary School

Ayden

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 62

PITT COUNTY, NORTH CAROLINA NO 63

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 63

1 ¾ ½ ¼ 0 1 Mile
5000 4000 3000 2000 1000 0 5000 Feet
Scale 1:15840

N

63

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 64

64

N

1 Mile

5000 Feet

Scale 1:15840

1 0 1/4 1/2 3/4 1

1000 2000 3000 4000 5000

635 000 FEET

(Joins sheet 57)

(Joins sheet 63)

(Joins sheet 69)

2 490 000 FEET

2 505 000 FEET

640 000 FEET

(Joins sheet 65)

Swamp

Fork

Indian

Wells

Rosehill Church

Haddocks Crossroads

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 64

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 65

PITT COUNTY, NORTH CAROLINA NO. 65

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

2 510 000 FEET

1 640 000 FEET

(Joins sheet 64)

(Joins sheet 58)

(Joins sheet 66)

(Joins sheet 70)

2 525 000 FEET

630 000 FEET

65

N

1 Mile

5000 Feet

Scale 1:15840

1 0 1 2 3 4 5000

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 66

66

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 59)

(Joins sheet 65)

(Joins sheet 71)

2 545 000 FEET

640 000 FEET

630 000 FEET

2 530 000 FEET

Chicod Creek

BEAUFORT COUNTY

VOICE OF AMERICA
SITE B
US INFORMATION AGENCY

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 66

PITT COUNTY, NORTH CAROLINA NO 67

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 68

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA NO. 68

(69)

N

Scale 1:15840

1 Mile — 5000 Feet

PITT COUNTY, NORTH CAROLINA NO. 69

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 7

PITT COUNTY, NORTH CAROLINA NO 7

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

2 490 000 FEET

1 745 000 FEET

(Joins sheet 3)

(Joins sheet 6)

(Joins sheet 8)

(Joins sheet 12)

2 505 000 FEET

1 735 000 FEET

Grindle Creek

COAST LINE SEABOARD

Whitehurst

Hickory Church

BRIERY SWAMP

7

N

1 Mile

5 000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 70

70

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 65)

(Joins sheet 69)

(Joins sheet 71)

(Joins sheet 75)

2 525 000 FEET

630 000 FEET

620 000 FEET

2 510 000 FEET

Chicod School

Chicod Church

Shelmerdine

Indian Wells Swamp

Swamp

Clayroot Swamp

Clayroot

Co Le LoA Ro Bd ExA ExB CrA CrB CrB2 GoA OcB Ly Ra Na By WaB

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO. 70

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 71

(Joins sheet 66)

2 530 000 FEET

630 000 FEET

VOICE OF AMERICA
SITE B
US INFORMATION AGENCY

Clayroot Swamp

Swamp

Creeping

BEAUFORT COUNTY

(Joins sheet 70)

(Joins sheet 76)

2 545 000 FEET

520 000 FEET

71

N

1 Mile

5000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA NO 71

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 72

72

N

1 Mile

5000 Feet

Scale 1:15840

3000 AND 5000-FOOT GRID TICKS

2 390 000 FEET

1 698 000 FEET

693 000 FEET

605 000 FEET

2 387 000 FEET

2 450 000 FEET

2 465 000 FEET

615 000 FEET

(Joins sheet 67)

(Joins sheet 22)

(Joins sheet 30)

(Joins sheet 73)

(Joins sheet 77)

GREENE COUNTY

LENOIR COUNTY

WILSON COUNTY

CONTENTNEA CREEK

Little Contentnea Creek

Po Creek

EVERGREEN MEMORIAL CEMETERY

Photobase from 1971 aerial photography. Positions of 5,000-foot grid tcks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 72

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 73

PITT COUNTY, NORTH CAROLINA NO. 73

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

2 470 000 FEET

615 000 FEET

(Joins sheet 68)

(Joins sheet 72)

(Joins sheet 74)

(Joins sheet 78)

2 485 000 FEET

605 000 FEET

Littlefield

Elm Grove Church

Hamrahan

Swift Creek

SEABOARD COAST LINE

73

N

1 Mile

5 000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 74

74

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 69)

(Joins sheet 73)

(Joins sheet 79)

(Joins sheet 75)

2 505 000 FEET

615 000 FEET

605 000 FEET

2 490 000 FEET

Fork Swamp

Swift Creek

Coxville

Poplar Hill Church

SWIFT CREEK

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 74

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 75

PITT COUNTY, NORTH CAROLINA NO. 75

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

2 510 000 FEET

615 000 FEET

(Joins sheet 70)

(Joins sheet 74)

(Joins sheet 76)

(Joins sheet 80)

2 525 000 FEET

605 000 FEET

75

N

1 Mile

5000 Feet

Scale 1:15840

Stokestown

Swamp

Clayroot

Clayroot Swamp

Calico

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 76

76

N

(Joins sheet 71)

2 545 000 FEET

615 000 FEET

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 75)

605 000 FEET

2 530 000 FEET

(Joins inset, sheet 83)

Elmira Crossroads

Swamp

Creeping Swamp

BEAUFORT COUNTY

CRAVEN COUNTY

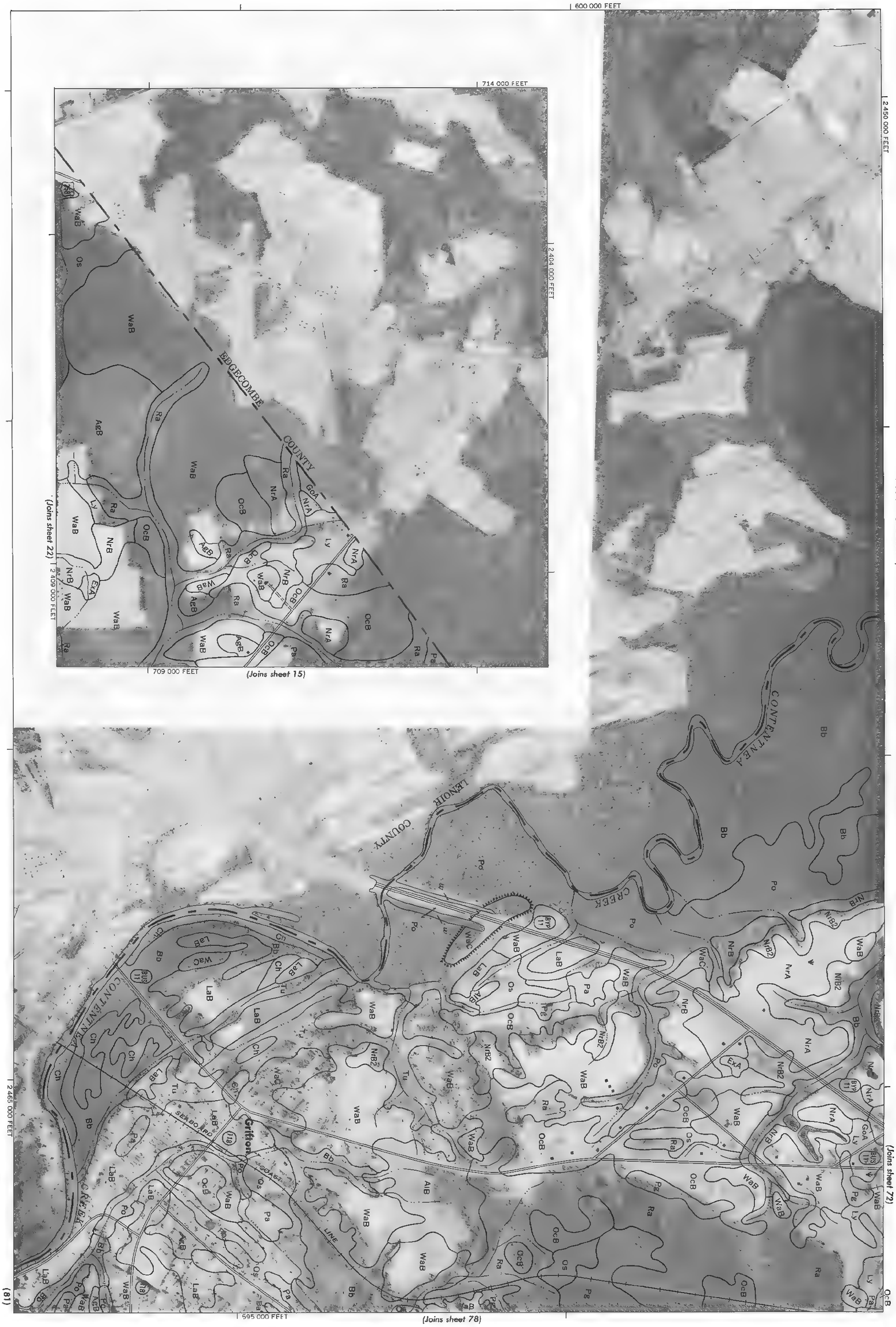
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 76

PITT COUNTY, NORTH CAROLINA NO. 77

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station
Photobase from 1971 aerial photography Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.



PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 77

78

N

1 Mile

5000 Feet

Scale 1:15840

(Joins sheet 77)

(Joins sheet 73)

2 485 000 FEET

600 000 FEET

(Joins sheet 79)

595 000 FEET

(Joins sheet 81)

2 470 000 FEET

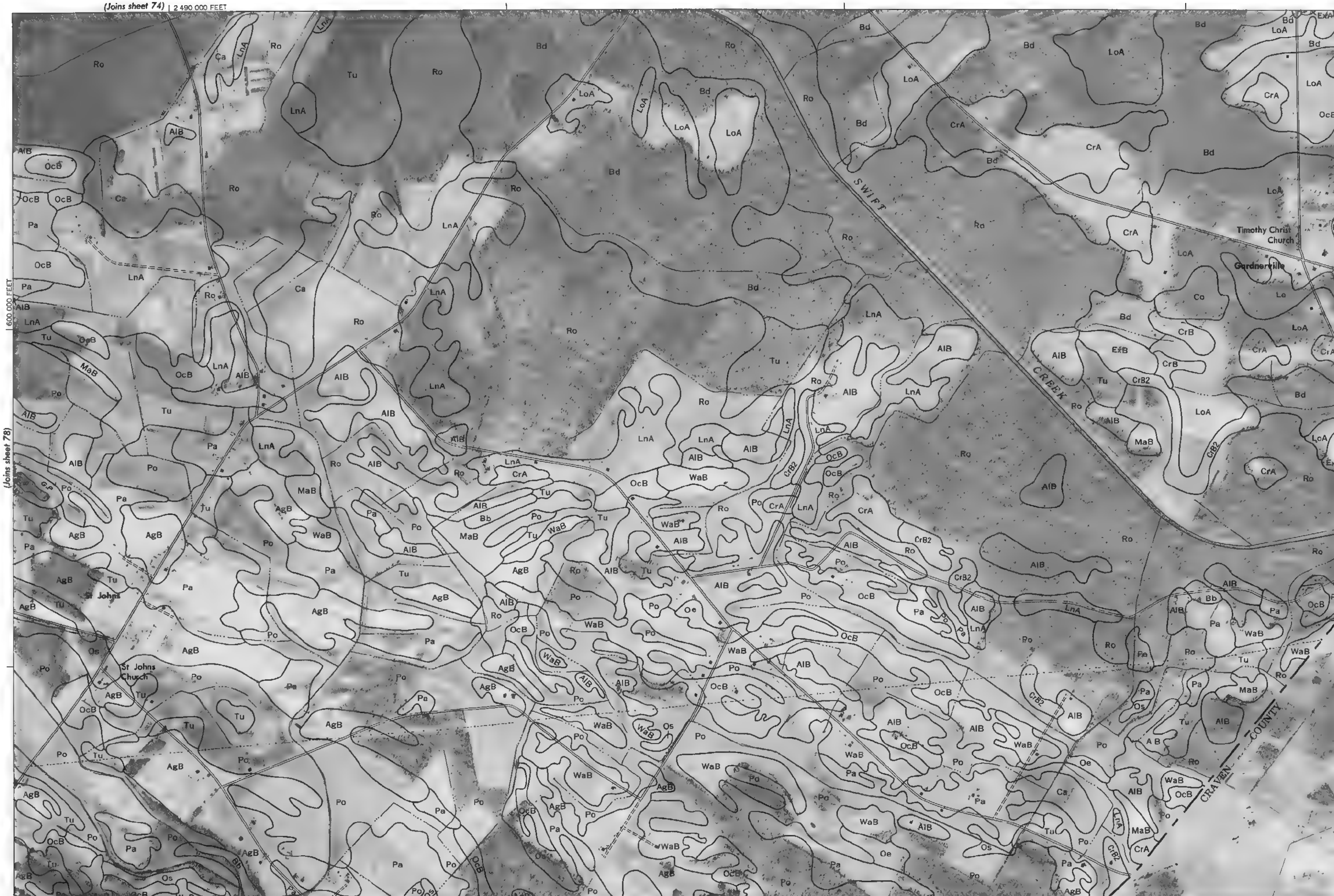
Jumping Run Church

Grifton

Live Oak Church

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.
This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO 78



PITT COUNTY, NORTH CAROLINA NO. 79

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 8

8

N

1 Mile

5000 Feet

Scale 1:15840

1 0 1 0 1

5000 4000 3000 2000 1000 0

¾ ½ ¼

(Joins sheet 7)

(Joins inset, sheet 3)

(Joins sheet 13)

(Joins sheet 14)

(Joins lower right)

(Joins inset)

2 525 000 FEET

2 533 000 FEET

2 528 000 FEET

2 510 000 FEET

745 000 FEET

736 000 FEET

735 000 FEET

3000 AND 5000-FOOT GRID TICKS

MARTIN COUNTY

Tranters Creek

Oakley

Carson

S.C.R.

G.P.

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station

PITT COUNTY, NORTH CAROLINA NO 8

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 80

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.

PITT COUNTY, NORTH CAROLINA NO. 80

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 81

2 470 000 FEET

595 000 FEET

N

Quinerly

CONTENTNEA CREEK

CONTENTNEA

GRAVEL PIT

LENOIR COUNTY

CRAVEN COUNTY

NEUSE RIVER

JOHNSTON MILL TAIL

(Joins sheet 82)

580 000 FEET

2 485 000 FEET

1 Mile

5000 Feet

Scale 1:15840

PITT COUNTY, NORTH CAROLINA NO. 81

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PITT COUNTY, NORTH CAROLINA NO. 82

PITT COUNTY, NORTH CAROLINA — SHEET NUMBER 83

PITT COUNTY, NORTH CAROLINA NO. 83

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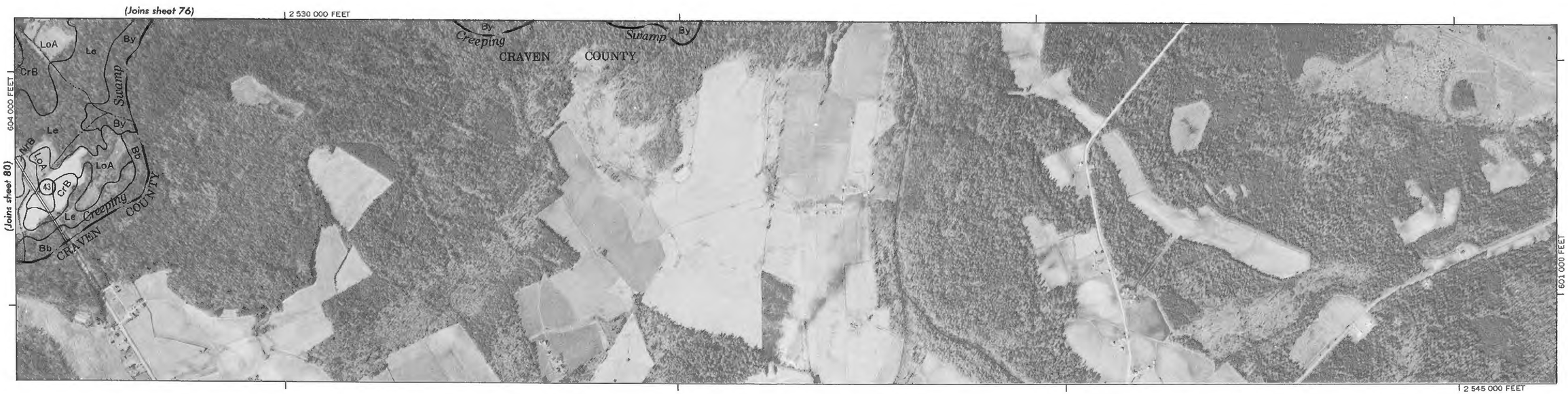
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.



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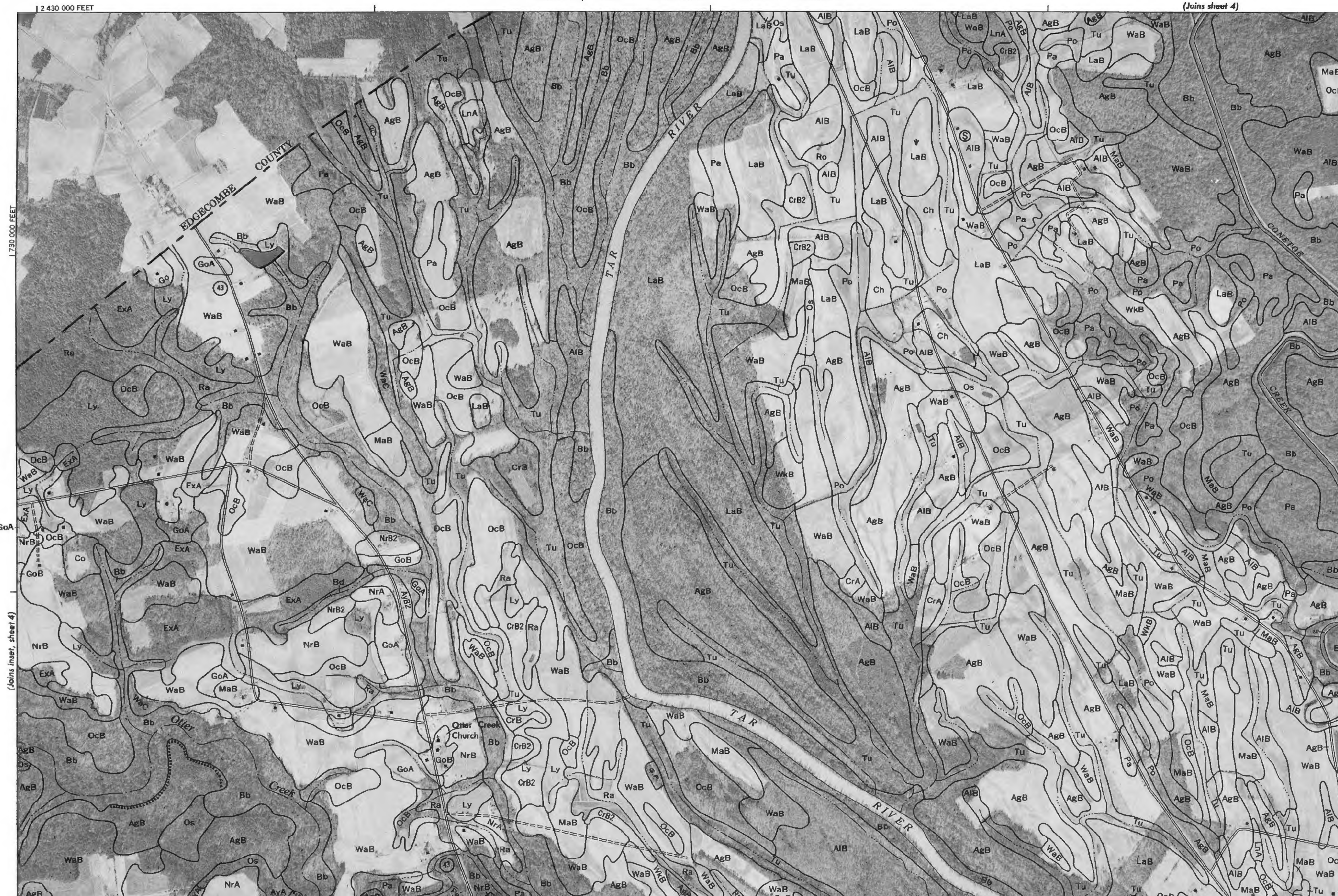

1 Mile
5000 Feet
0
1000
2000
3000
4000
5000
Scale 1:15840
0 ¼ ½ ¾ 1

PITT COUNTY, NORTH CAROLINA NO. 9

This map is one of a set compiled in 1973 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the North Carolina Agricultural Experiment Station.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the North Carolina coordinate system.